Waterloo Institute for Nanotechnology, Centre for Bioengineering and Biotechnology and Indian Institute of Technology Kharagpur – Common Research and Technology Development Hub on Healthcare: Interdisciplinary Seed Grant Program on Health Technologies and Knowledge Mobilization

Program Description

Universal access to good healthcare systems and technology is at the forefront of the challenges faced by a large portion of today's population. Advancements in nanotechnology and microengineering and their applications to medical and healthcare fields are helping meet these needs with novel medication systems, diagnosis and treatments. Knowledge mobilization is also a very important aspect of health- and wellness research, ensuring end-users are aware of new technological developments that are optimized for ease of use and wide adoption by society, which will ultimately help democratize healthcare. As equitable access to health care is often a challenge in limited resource communities, collaboration across jurisdictions is critical to ensure health equity between "haves" and "have nots".

The Waterloo Institute for Nanotechnology (WIN) and the Centre for Bioengineering and Biotechnology (CBB) at the University of Waterloo (Waterloo) are partnering with the Indian Institute of Technology Kharagpur (IIT-KGP) Common Research and Technology Development Hub on Healthcare (CRTDH) to sponsor a Joint Seed Funding Program to foster new interdisciplinary and interjurisdictional research collaborations between international partners. In this program, the aim is to promote the development of new health technologies for the betterment of health and wellness for all.

This call will support outstanding joint projects in the following key theme areas of health technology:
- **Advanced Healthcare Platforms** (such as point of care diagnostic technologies, wearable or implantable devices for therapeutics and measurements, tissue repair and regeneration, promoting repair and recovery of neural, musculoskeletal and cardiovascular tissue)
- **Delivery Systems for Therapeutics** (for pharmaceuticals and medications, nutrient delivery, food safety and security, etc)
- **Biomedical Imaging** (for cells, tissues, systems, pre-/post clinical assessment and monitoring and other applications)

Each project must include a **Knowledge Mobilization and Technology Translation** component, to engage end users, informing them of new technological developments and/or adaptation of the same as alternatives to existing practice.

The intent of the program is to support research teams as they obtain preliminary results and insights that will enhance their applications to various external national and international funding programs. As large-scale funding programs increasingly require a knowledge mobilization strategy to be incorporated into the research program, this fund will help support the integration of researchers from the different academic and research units into balanced interdisciplinary and interjurisdictional teams.

Funding Amount and Duration of Support

To support joint projects, WIN and CBB are each contributing $30,000 CAD to this seed funding initiative for a total available funding pool of $60,000 CAD. Up to three (3) awards of $20,000 CAD --- each for a one-year duration will be awarded to outstanding projects. Awarded projects with one or more collaborators

from IIT-KGP will receive matching funds from IIT-KGP through its CRTDH and/or any other Sponsored Research Project in the respective domain.

Awardees will be funded for a period of one (1) year. It is expected that awardees will submit a minimum of one (1) application to an external funding program within two (2) years of receiving seed grant support to sustain their project.

For Waterloo researchers: Funds cannot be transferred outside of Waterloo to support external staff and/or Research Assistants.

For IIT-KGP researchers: Funds cannot be transferred outside of IIT-KGP to support external staff and/or Research Assistants.

The various components of the proposed budget must comply with the guidelines, rules and regulations of the corresponding organization.

Eligibility

For this program, the team must consist of **at least one core WIN member and one CBB member who will serve as co-principal investigators (co-PIs) on the project**.

Applicants are encouraged to include IIT-KGP member(s) in their team to foster research collaboration. The potential collaborators from IIT-KGP are included as an attachment. Awarded projects that include IIT-KGP collaborator(s) as part of the team will be able to access matching funds from IIT-KGP.

Lead applicants are encouraged to bring together an interdisciplinary team of co-applicants and collaborators, and preference will be given to applications with at least one co-applicant from Waterloo's Faculty of Health.

Important Dates

- December 4, 2023 – Open to applications
- March 18, 2024 at 11:59 pm – Deadline for the submission of applications. Principal investigators will receive acknowledgment of receipt within one week of submission. Late submissions will not be accepted
- April 8, 2024 – Principal investigators will receive written notice of the decision
- May 1, 2024 – Project start date for awardees
- May 1, 2025 – Project end date for awardees
- August 1, 2025 – Due date for awardees to submit their project report

How to Apply

Seed funding applicants must complete and submit the following:

1. An application form using the provided template, which is available in PDF or Word (.docx) format.
2. A Waterloo Cover Sheet for Sponsored Research Activities
3. CVs for each of the principal investigators.

The application form along with the CVs must be submitted electronically via email to both cbb@uwaterloo.ca AND lisa.pokrajac@uwaterloo.ca. The Waterloo Cover Sheet for Sponsored Research Activities must be submitted electronically using the Waterloo Electronic Cover Sheet System.

The application form includes the following sections:
- Project title
- Principal investigators, co-applicants and collaborators (specifying their names, and affiliations)
- The problem or issue being addressed and its impact (including a description of how this research will address inequities in current healthcare systems)
- Research Theme/s (specifying how this project addresses one or more of the key research themes - Advanced Healthcare Platforms, Delivery Systems for Therapeutics, and/or Biomedical Imaging)
- Team composition (specifying the role or each partner in the project)
- Funding requested and budget justification
- Subsequent support/project sustainability (outlining plans for applications to external grant competitions)
- Proposal (including methodology/approach, planned end-user engagement and knowledge mobilization, potential impact, and next steps)

Evaluation Criteria

Applications will be evaluated by a qualified review committee and scored based on the following criteria:

- Demonstrated relevance to the key theme areas and the potential impact of the proposed research
- Clarity of the proposal with a well-defined and realistic scope, and effective strategy for end-user engagement and knowledge mobilization
- Overall feasibility of the project
- Bringing together new teams or significantly strengthening existing teams
- Clearly describing the appropriate use of the requested funds (i.e. dollar amount requested should match the scale of activities planned, and the budget outlined should clearly explain how funds will be used)
- Clearly describing how a seed fund award will help facilitate future external funding. A plan for applying for external funding must be clearly outlined in the application

Preference will be given to applications that involve:

- Interdisciplinary teams
- At least one training opportunity (i.e. grad student or postdoc involvement)
- At least one co-applicant from Waterloo's Faculty of Health

Requirements of Successful Applications

Once awarded, PIs are expected to complete the following milestones:
1. A summary report of research activities and outcomes is due three (3) months after the award period has concluded;

2. After project completion, the CBB and WIN co-PIs must present research outcomes of this joint project at a WIN-CBB organized event (seminar, networking social event, etc);
3. The recipients must apply to all applicable national and international funding programs within two (2) years of receipt of this funding (Tri-Council, CFI, or other significant funding programs, as appropriate);
4. Within two (2) years of funding receipt, the team is expected to prepare and submit at least two (2) publications in peer-reviewed journals, and present at a significant national or international conference.

Note: Official approval for research activities which includes the participation of humans or animals, uses biohazards or radioactivity, must be in place before any research is undertaken at either Waterloo or IIT-KGP.