REQUEST FOR APPLICATIONS

THE TERRY FOX RESEARCH INSTITUTE & THE MARATHON OF HOPE CANCER CENTRES NETWORK

TECHNOLOGY DEVELOPMENT AWARDS (2024)

Purpose

This co-funding opportunity from the Terry Fox Research Institute (TFRI) and the Marathon of Hope Cancer Centres Network (MOHCCN) will provide funding to projects to develop additional profiling technologies that would generate data compatible with precision oncology and could be applied to a section of the MOHCCN Gold Cohort. The projects would assess the readiness for dissemination, targets (cases eligible), standardization and quality control of a particular technology, development of standardized assessments and data types and portability. Project teams will be required to collaborate with at least one of the five MOHCCN consortia, and special consideration will be given to applicants who demonstrate the ability to collaborate between at least two Canadian research institutes.

Background

A key objective of the Marathon of Hope Cancer Centres Network is to build a comprehensive dataset of paired clinical and genomic data from a diverse pool of 15,000 Canadian cancer patients, the MOHCCN Gold Cohort.

To populate the Gold Cohort, the MOHCCN is funding data generation through five regional consortia and more than 30 partner institutions across Canada. Projects generate, collect and share data according to guidelines, standards and policies created by fifteen working groups made up of experts from across the country. These projects focus on a wide range of cancer types and scientific questions and will yield important insights into cancer biology and new treatment opportunities. In the longer term, the completed Gold Cohort dataset will be instrumental in accelerating precision oncology research and implementation in Canada.

For a case to be included in the cohort, it must meet certain requirements as laid out in the MOHCCN Gold Cohort Standards Policy. An MOHCCN case is defined as a unique patient. The data requirements for a gold standard include a minimum of whole genome, whole transcriptome, pathology-reviewed cellularity (digital H&E) and associated clinical data (please note updates to the Gold Cohort Standards Policy published in February 2024).

This funding opportunity aims to support the development of proof-of-principle or proof-of-feasibility data for additional profiling approaches to be used in future developments for the MOHCCN. These projects will support existing or new precision cancer research using the MOHCCN model with significant potential for impact on outcomes for patients.

Scope & Eligibility

Support under this Request for Applications (RFA) is targeted at high-quality research teams at Canadian institutions, working on innovative cancer prevention, diagnosis and/or treatment. At least one PI per application must currently be, or have previously been, funded through MOHCCN. Collaborations outside of MOHCCN and TFRI are acceptable.

Collaboration across multiple Canadian cancer centres is encouraged, though not required. Industry collaborations are also welcome. Applicants are urged to work together to avoid competing applications for a given technology. Applicants must demonstrate the ability to begin work in August 2024, have appropriate access to samples and to complete work within the timeframes (see Support Offered and Conditions of Funding).

Projects may involve, but are not limited to, the following topics:

1. Proteomics and protein-based technologies
2. Metabolomics
3. Liquid biopsies and longitudinal samples for assessment of metastasis or heterogeneity
4. Flow Cytometry, CyTOF, Imaging mass spectrometry

Applications should detail the technology, evidence of its use in the applicant's labs, plan for standardization, reproducibility (at more than one site) and data processing/export. Applicants must have appropriate access to samples (include letters to demonstrate consent for sample analysis and access for sharing, as appropriate) and must detail the number of samples to be included in the project (minimum 20).

Data generated by the project may be used for publication; however, data must also be shared with the MOHCCN.

Support Offered and Conditions of Funding

Funding will be available for the remaining two (2) years of the MOHCCN project, Fiscal Years 2024-25 and 2025-26. Projects may apply for up to $250,000 (total amount; delivered over one or two years, depending on project scope). Up to six (6) projects may be selected for funding.

Through the generous support of TFRI for this funding opportunity, applicants are not required to provide 50% matching funds for these projects. For details regarding eligible expenses,

please see Appendix A in the Full Application Form. Please note the limits for use and disposal of equipment purchases.

Successful applications will receive their funds after execution of two research agreements; a standard MOHCCN Research Project Grant Agreement (RPGA) and a standard TFRI Matching Award which each detail the respective 50% funding, terms and conditions, and reporting schedules. Agreements and funds for Technology Development projects will be provided by TFRI directly to each collaborating institution. As a pre-condition of receiving funding, two other agreements must be in place with the institution; an active MOHCCN member Joinder Agreement (see MOHCCN Membership Prerequisite below) and have a TFRI Memorandum of Understanding (MOU) (see TFRI Match below). All four agreements must be in place at the start of an award offer.

Timeline

1. Technology Development Award Launch – **March 18, 2024**
2. Webinar and Opportunity for Q&A – **April 3, 2024**
    - More details to be found on the TFRI and MOHCCN funding opportunities webpages
3. Deadline for TFRI–MOHCCN Technology Development Award Applications – **Thursday May 16, 2024** (5:00 p.m. Pacific Time)
    - All application materials must be submitted to MOH@TFRI.ca
4. Scientific Review – **June 2024**
5. Award Announcement to Applicants – **July 2024**
6. Funding Start Date – **August 1,2024**

Review Criteria

Reviewers will assess the following criteria:

- Scientific: impact, innovation/originality, investigators' qualifications
- Feasibility: readiness, patients/sample accessibility, assessment of the budget
- Collaboration across institutions

MOHCCN Membership Prerequisite

A prerequisite to receiving TFRI–MOHCCN funds through RPGA agreements, is that each applicant and collaborating institution in the project must first be an MOHCCN Member by agreeing to the terms of the MOHCCN Network Master Agreement though signing of a Joinder Letter. The MOHCCN Network Master Agreement and Joinder letters will be made available to any applying institution if they are not already a Network Member. Requests for these documents should be made to jmicholuk@tfri.ca. A membership process is a one-time event and once a Member, project funds can be provided by TFRI to the institutions through one or more RPGA agreements over time.

TFRI Match

To receive, from TFRI, the 50% matching funds as required by MOHCCN, applicants must sign a TFRI matching award agreement and ensure that your institution has an active Memorandum of Understanding (MOU) with TFRI. Requests for these documents should be made to jmicholuk@tfri.ca. An MOU process is a one-time event and once signed, project funds can be provided by TFRI to the institutions through one or more research grants over time.

Applicants and sponsoring Institutions are expected to observe TFRI's Research Administration Policy. This includes:

a. Certificates

Before TFRI funding is made available by institutions to their respective researchers the Applicants must first obtain from the sponsoring Institution all applicable safety certificates, including:

1. *Biohazards*. For projects involving use of biological material, a certificate guaranteeing that the project will be conducted under conditions which satisfy the Canadian Biosafety Standard (CBS) 2nd edition (2015) and the Canadian Biosafety Handbook (CBH), 2nd edition (2015). (http://canadianbiosafetystandards.collaboration.gc.ca/)
2. *Animal Care*. For projects involving use of experimental animals, a certificate guaranteeing that all animals will be cared for and studied under conditions meeting the standards set forth in the Canadian Council on Animal Care's "Guide to the Care and Use of Experimental Animals" Vol 1 (1993). (https://www.ccac.ca/)
3. *Human Studies*. For projects involving human subjects, a certificate stating that the protocols and methods have been reviewed by the Institutional Research Ethics Board and found to be acceptable in accordance with current edition of the Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, Social Sciences and Humanities Research Council of Canada: 'Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans' (2014) (www.pre.ethics.gc.ca). If studies use investigational compounds, regulatory approval from Canada's Health Protection Branch is also required.
4. *Use of Human and Biological Samples*. TFRI is committed to ensuring that highquality bio-specimens are used in research it funds, as these yield high, reproducible quality data. For this reason, TFRI requires all applicants for funding to certify that (i) all prospective (new) bio-specimens included in the TFRI-funded research will be collected in accordance with the standards set by the Canadian Tissue Repository Network (https://www.ctrnet.ca/en/resources/national-standards/) and/or the Clinical Laboratory Improvement Amendments Act (CLIA) of the United States (https://www.cms.gov/Regulations-and-Guidance/Legislation/CLIA/index.html) and/or (ii) all retrospective (old) bio-specimens used in the TFRI-funded research have come

from a CTRNet or CLIA-certified bio-repository. Links to the CTRNet certification program and registered biobanks can be found at https://biobanking.org/webs/certification. Applicants are required to submit evidence of current certification and participation in external quality assurance programs with the proposal.

5. *Human Pluripotent Stem Cell Research*. TFRI endorses the guidelines set forward by the Canadian Institutes of Health Research on 'Human Pluripotent Stem Cells' now integrated into the 'Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2), Chapter 12. Section F (2nd edition) (https://ethics.gc.ca/eng/tcps2-eptc2_2018_chapter12-chapitre12.html). Applicants are required to contact TFRI before submitting an application for support of cancer research requiring any use of human pluripotent stem cells.

b. Reporting

TFRI requires Biannual Scientific Research Progress Reports per project/cohort. In addition, quarterly Financial Reports from each collaborating institution that includes the expenditures from all award funds. Terms of the MOHCCN funding from Health Canada require that an external audit be conducted annually (May/Jun) to verify the sources of cash match funds and the related expenditures incurred.

TFRI also expects the applicant and collaborators to actively contribute at TFRI and MOHCCN Meetings during the term of the project.

c. Project Title & Use of TFRI logo

Funded applicants will be designated as a "TFRI–MOHCCN Technology Development Project in [project short title]". Investigators are expected to comply with TFRI and MOHCCN Visual Identity Guidelines as appropriate, to be found at: www.tfri.ca and www.mohccn.ca

d. Employment Equity

TFRI is committed to compliance with the Canadian Employment Equity Act and to ensuring that our funded research programs provide equal employment opportunities to women, Indigenous persons, persons with disabilities, and members of visible minorities. All Funded Applications are required to employ non-discriminatory hiring practices in their workplaces.

e. Inclusion of sex and gender in research design where appropriate

Applicants are expected to include a statement in the proposal that they have considered sex- and gender-based analysis (SGBA) as appropriate. The purpose of SGBA is to

promote rigorous science that is sensitive to sex and gender and therefore has the potential to expand our understanding of health determinants for all people[1].

For inquiries, please contact:

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Date: March 8, 2024

[1] Please refer to http://www.cihr-irsc.gc.ca/e/50836.html for more resources on SGBA.