



# **Canada Biomedical Research Fund and Biosciences Research Infrastructure Fund – Stage 2**



Presented: April 10, 2023  
Revised: April 14, 2023



# Canada's Biomanufacturing and Life Sciences Strategy

\$2.2 Billion investment in  
the Strategy over 7 years

The goals of the Strategy are to:

- Grow a strong, competitive biomanufacturing and life sciences sector,
- Ensure Canada is prepared for future pandemics by increasing domestic capacity through investments and partnerships to produce life-saving vaccines and therapeutics

The Strategy includes the following foundational investments to help build Canada's talent pipeline and research systems, as well as foster the growth of Canadian life sciences firms:

- [Canada Biomedical Research Fund \(CBRF\)](#)
- [Biosciences Research Infrastructure Fund \(BRIF\)](#)
- [Clinical Trials Fund.](#)

Source: [Canada Biomedical Research Fund website](#)



# CBRF Stage 1 – Research Hubs

<p><b>The CBRF PRAIRIE Hub</b> Lead: University of Alberta</p>	<p>Accelerating the development and commercialization of vaccine, antiviral and diagnostic countermeasures for potential pandemic pathogens.</p>
<p><b>Canada’s Immuno-Engineering and Biomanufacturing Hub (CIEBH)</b> Lead: University of British Columbia (Dal partner)</p>	<p>Helping develop next-generation immune-based therapeutics that can be manufactured domestically using the latest innovations in biomanufacturing in response to pandemics.</p>
<p><b>Eastern Canada Pandemic Preparedness Hub (ECaPPH)</b> Lead: Université de Montréal (Dal partner)</p>	<p>Increasing the agility, connectivity and growth of the biomanufacturing and life sciences sector to ensure that Canada is prepared for future pandemics and public health crises.</p>
<p><b>Canadian Pandemic Preparedness Hub (CP2H)</b> Leads: University of Ottawa &amp; McMaster University (Dal partner)</p>	<p>Catalyzing research and biomanufacturing innovations to help Canada produce vaccines, therapeutics and diagnostics ahead of future pandemics.</p>
<p><b>Canadian Hub for Health Intelligence &amp; Innovation in Infectious Diseases (HI3)</b> Lead: University of Toronto</p>	<p>Advancing the concept of “personalized and precise medicine” to influence the development of vaccines, therapeutics and other public health interventions.</p>



# Role of CBRF Hubs in Stage 2 Competition

- Identify gaps, plan and integrate research, talent development and infrastructure components aligned with the hub's vision, priorities, and program of research to bring forward a portfolio of proposals that collectively addresses gaps and strengthens the biomanufacturing and life sciences sector;
- Coordinate within and across hubs to encourage collaboration and inclusivity and to avoid duplication across proposals;
- Endorse a cohesive portfolio of proposals, using a sound, inclusive process;
- Ensure proposals within the portfolio include multidisciplinary perspectives, including those in the social sciences and humanities, where appropriate;
- Submit an endorsement report to assist the merit review process, addressing:
  - how the suite of proposals align with the hub's vision, priorities, and program of research , the [strategic objectives of the funding opportunity](#) and [the Strategy's priorities](#); and
  - the linkage, complementarity and interdependencies across proposals within and between hubs.



# CBRF-BRIF Stage 2 Competition Details

TIPS/CFI

Competition launch	March 2, 2023
Notice of intent deadline	June 8, 2023
Full Application deadline	September 7, 2023
Results announced	March 2024

## CBRF:

\$500,000 to \$5 million per year for up to 4 years (including 25% of the total award value for indirect costs of research)

There is no cap on the number of applications or amount of funding endorsed by the Hubs

## BRIF:

Total cost of an infrastructure component must be greater than \$1 million. The Canada Foundation for Innovation (CFI) will fund up to 60% of eligible infrastructure costs.

Each Hub may endorse a maximum of \$138.5M in CFI funding for research infrastructure components.



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# 1. Research

# 2. Talent

# Development

# 3. Infrastructure

Each proposal can include one or more of the following components:

- **Partnered applied research** in the biomanufacturing and life sciences sector to accelerate the translation of discoveries into products and services to strengthen the sector
- **Partnered talent development** to provide skills and training needed to drive innovation and growth in Canada's biomanufacturing industry
- **Research infrastructure** to support Canada's biosciences research needs

Each research infrastructure or talent development component must directly support one or more proposals comprising a research component.

Infrastructure requests exclusively supporting talent development will not be accepted.



# CBRF-BRIF Stage 2 Competition Timeline

*Researcher Consultation  
with Hubs on Projects*

*Application Development  
and Review Supports*

Competition Launch  
March 2, 2023

Notice of Intent  
Deadline: June 8,  
2023

Hub Expression of  
Interest Deadlines  
(April 27 – May 12)

Full Application  
Deadline: September  
7, 2023

Results:  
March 2024

*Dalhousie Internal  
Review Process*



# Expression of Interest

Hubs have developed EOIs to support decision-making for Hub endorsement.

Researchers are strongly encouraged to reach out to Hubs to discuss projects.

Hub Name	Areas of Focus	EOI Deadline
Canada's Immuno-Engineering and Biomanufacturing Hub (CIEBH) (Lead: UBC; Dal is Partner)	Helping develop next-generation immune-based therapeutics that can be manufactured domestically using the latest innovations in biomanufacturing in response to pandemics.	April 27, 2023
The CBRF PRAIRIE Hub (Lead: UofA)	Accelerating the development and commercialization of vaccine, antiviral and diagnostic countermeasures for potential pandemic pathogens.	May 5, 2023
Canadian Hub for Health Intelligence & Innovation in Infectious Diseases (HI3) (Lead: UofT)	Advancing the concept of “personalized and precise medicine” to influence the development of vaccines, therapeutics and other public health interventions.	April 27, 2023
Canadian Pandemic Preparedness Hub (CP2H) (Lead: UOttawa & McMaster; Dal is Partner)	Catalyzing research and biomanufacturing innovations to help Canada produce vaccines, therapeutics and diagnostics ahead of future pandemics.	May 12, 2023
Eastern Canada Pandemic Preparedness Hub (ECaPPH) (Lead: UofMontreal; Dal is Partner)	Increasing the agility, connectivity and growth of the biomanufacturing and life sciences sector to ensure that Canada is prepared for future pandemics and public health crises.	May 8, 2023





## Expression of Interest

### Submission Process:

- EOIs must be submitted internally via Romeo
- Departments and Faculties must approve EOIs
- ORS will support institutional signature for Hub EOI deadline(s)
- Researchers are required to submit the completed EOI via email or Hub portal

Hubs will review and provide feedback to researchers by the end of May.



# Dalhousie Institutional Process

*Please Note: this process has been revised since initially presented on April 10th.*

## Dalhousie Internal Review of EOIs:

- Based on EOI submission - no separate forms or documents\*
- Concurrent with Hub EOI review

Dalhousie institutional approvals will be provided in advance of the CBRF/BRIF NOI deadline, based on review of the EOI and the final NOI.

*\* Additional information may be requested to support the Dalhousie EOI review.*



# Notice of Intent

Internal Deadline: May 25, 2023

TIPS Deadline: June 8, 2023

Notice of Intent (NOI) form completion and submission will take place via the [Convergence Portal](#)

- Researchers must submit to the institution; the institution must submit the NOI to TIPS by the posted deadline

NOI sections include:

- Proposal Details (research, talent, infrastructure)
- Proposed Budget
- Lay Summary
- Partner organizations and participants
- Keywords
- Suggested Reviewers
- Etc.



# Full Application

Internal Deadline: TBC following release of additional deadlines from funder and Hubs

TIPS Deadline: September 7, 2023

Details on the Full Application are anticipated to be available by end of June

**Equity, diversity, inclusion and accessibility (EDIA):** must be embedded in the research design and research team composition

**ECRs and HQP:** measures must be implemented to support ECRs and train HQP at all levels, with a focus on skills applicable to the biomanufacturing sector.

**Multidisciplinary proposals:** include disciplines within the social sciences and humanities in Stage 2 proposals, as appropriate, to strengthen the biomedical research and talent pipelines.

**Knowledge mobilization:** Commercialization plans should be co-created with partners from all sectors to increase update of research results.

**Research Security:** proposals involving one or more private-sector partnerships must include a completed [Risk Assessment Form](#).

## CBRF Budget:

- Expenditures must align with the [Tri-Agency Guide on Financial Administration](#)
- Budgets must include 25% indirect costs

## BRIF Budget:

- Eligibility of infrastructure will follow the [CFI's Policy and Program Guide](#)



# Scientific and Technical Selection Criteria

Component	Criteria	
<b>Research</b> <b>Talent Development</b> <i>(each component will be reviewed separately for the six criteria)</i>	Relevance	Alignment with Hub priorities
	Effectiveness	Scientific excellence, feasibility, appropriate expertise
	Efficiency	Scope and timeline, budget, oversight
	Impact	Potential significant benefits to Canadians, commercialization, technology transfer and/or knowledge mobilization plans (research), value-added training (talent development)
	Contribution of Partners	Appropriateness, contribution to research design and/or talent development, engagement in research and/or training activities
	EDIA and ECRs	Ongoing and rigorous actions to identify, address and mitigate systemic barriers to support equitable participation. Principles of EDIA should be considered in team composition.
<b>Infrastructure</b>	Need	Appropriateness of the requested infrastructure to support the related research activities
	Building Capacity	Complementarity and ability to leverage existing infrastructure and the necessary expertise to ensure optimal use
	Sustainability	Oversight structure, operations and maintenance plans, equity approach to infrastructure access



# Strategic Selection Criteria

Relevance	Alignment with Canada's Biomanufacturing and Life Sciences Strategy and one or more strategic objectives of the CBRF opportunity
Impact	Ability to bolster Canada's bio-innovation capabilities and the Canadian biomanufacturing and life sciences sector; improving pandemic preparedness and domestic capacity to produce vaccines and therapeutics.
Coherence	Contribution to a coherent, coordinated and effective program of research, within and across hubs.

# CBRF PRAIRIE Hub

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## Partners

University of Alberta, University of Calgary, University of Manitoba, University of Saskatchewan

## Priorities

Development and commercialization of vaccine, antiviral, diagnostic countermeasures

One Health

Machine learning and artificial intelligence

Largest high-containment space in Canada (small and large animal models)

Preclinical assessments, early phase evaluations, production

# Canada's Immuno-Engineering and Biomanufacturing Hub (CIEBH)

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## Partners

University of British Columbia, **Dalhousie University**, Simon Fraser University, University of Victoria, VIDO, University of Waterloo

Leadership Team (Dal): Scott Halperin

## Priorities

Development of therapeutics: lipid nanoparticle-based vaccines, engineered antibodies, cell-based therapies, treatments targeting AMR

100 day response to priority pathogens

Pipeline: discovery, genomic analysis, design, development, biomanufacturing, bioprocessing, testing, application





# Eastern Canada Pandemic Preparedness Hub (ECaPPH)

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## Partners

Université de Montreal, **Dalhousie University**, Ecole Polytechnique, McGill University, Université de Sherbrooke, Université Laval

Leadership Team (Dal): Joanne Langley

## Priorities

Genomics-based diagnosis and RNA-based therapies for emerging infections

Small molecules, immunomodulators, cell therapies

Vaccine development, production and evaluation



# Canadian Pandemic Preparedness Hub (CP2H)

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## Partners

University of Ottawa, McMaster University, **Dalhousie University**, Toronto Metropolitan University, University of Alberta, University of Saskatchewan/VIDO

**Leadership Team (Dal):** Scott Halperin, Jeanna Parsons Leigh

## Priorities

Develop therapeutic and diagnostic platforms and technologies: viral vectors, vaccines (protein, subunit, mucosal, VLP), RNA therapeutics, small molecules, antivirals, antibodies and immunomodulators

GMP manufacturing infrastructure

Social sciences, uptake, implementation



# Canadian Hub for Health Intelligence & Innovation in Infectious Disease (HI3)

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## Partners

University of Toronto, Queen's University, Toronto Metropolitan University, Western University, University of Guelph, University of Ottawa, University of Saskatchewan, University of Waterloo, University of Windsor, York University

## Priorities

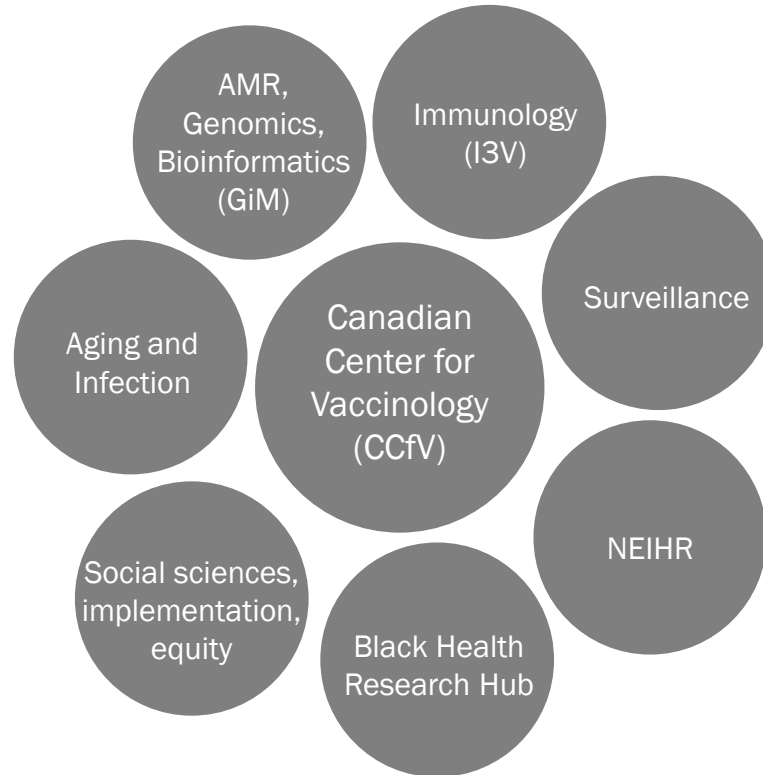
Precision interventions: vaccines and therapeutics

Process innovations: automation to second generation biomanufacturing

Health intelligence: evaluate interventions and inform efficient and equitable delivery

# Existing Expertise at Dalhousie

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# Key Messages

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Large-scale, high risk initiatives

Partnered proposals: multisectoral, multidisciplinary, multi-institutional

Applied, translational research: accelerate translation and impact

EDIA and ECR development are critical components

Training: academic and non-academic career paths

Aligned with Canada Biomanufacturing & Life Sciences Strategy and priorities/mandate of one hub

\*\*Engage with hubs early (prior to EOI deadline): alignment and endorsement, catalyze partnerships and collaborations



Hub Name	Areas of Focus	EOI Deadline	Available Links
Canada's Immuno-Engineering and Biomanufacturing Hub (CIEBH) (Lead: UBC; Dal is Partner)	Helping develop next-generation immune-based therapeutics that can be manufactured domestically using the latest innovations in biomanufacturing in response to pandemics.	April 27, 2023	<a href="#">Website</a> <a href="#">Expression of Interest</a> <a href="#">Email</a>
The CBRF PRAIRIE Hub (Lead: UofA)	Accelerating the development and commercialization of vaccine, antiviral and diagnostic countermeasures for potential pandemic pathogens.	TBC	
Canadian Hub for Health Intelligence & Innovation in Infectious Diseases (HI3) (Lead: UofT)	Advancing the concept of “personalized and precise medicine” to influence the development of vaccines, therapeutics and other public health interventions.	April 27, 2023	Webinar ( <a href="#">Recording</a> ; <a href="#">Slides</a> ) <a href="#">Research Experts</a> <a href="#">Email</a>  (Contact Dal ORS for a copy of the EOI Forms)
Canadian Pandemic Preparedness Hub (CP2H) (Lead: UOttawa & McMaster; Dal is Partner)	Catalyzing research and biomanufacturing innovations to help Canada produce vaccines, therapeutics and diagnostics ahead of future pandemics.	May 12, 2023	<a href="#">Website</a>
Eastern Canada Pandemic Preparedness Hub (ECaPPH) (Lead: UofMontreal; Dal is Partner)	Increasing the agility, connectivity and growth of the biomanufacturing and life sciences sector to ensure that Canada is prepared for future pandemics and public health crises.	May 8, 2023	<a href="#">Email</a>  (Contact Dal ORS for a copy of the EOI Forms)