



UNIVERSITY OF  
TORONTO



Institute for  
Pandemics

# ANNUAL REPORT 2023





# TABLE OF CONTENTS

Message from the Director 02

Overview of the institute 04

Membership 06

Highlight from 2023 08

Catalyst Grants 09

Graduate Studentship Awards 11

Metrics 12

Knowledge Mobilization 14

Equity, Diversity & Inclusion 15

Leveraging Expertise 16

# MESSAGE FROM THE DIRECTOR

The COVID-19 pandemic has led to millions of hospitalizations and deaths worldwide; the broader and longer-term impacts on population health, society and human capital loss are immense. Global interdependence, transportation, trade, and changing social and cultural patterns are increasing the rate and impact of pandemic threats; in fact, COVID-19 is already the 9th pandemic or large-scale regional epidemic caused by emerging pathogens in this century. Such recurrent health crises require collective efforts of our scientific community to improve pandemic READINESS, RESILIENCE and RECOVERY. Drawing from the University of Toronto's diverse expertise, the Institute for Pandemics (IfP) Institutional Strategic Initiative was launched in January 2023 to address these complex, multidimensional challenges. Its goals are to power transdisciplinary research, equip future health leaders with a broad skillset, and strengthen pandemic responses, public health policies and systems in an equitable way that advance national and global health.

In the past year, we have engaged more than 150 faculty members, from 11 academic Divisions across all three UofT campuses in our programs, and the numbers are growing. Integrating a wide array of strengths from public health, epidemiology, mathematical modelling, medicine, engineering, social sciences, pharmacy, management, to health economics, amongst others, IfP is striving to develop an interdisciplinary research ecosystem to advance pandemic sciences.

We have established collaborations in our research, education or knowledge translation programs, with public health units (e.g., Public Health Ontario, Toronto Public Health, Ministry of Health), international health authorities (e.g., World Health Organization), professional organizations (e.g., Canadian Public Health Association), industries and academic institutions across continents.

We have successfully rolled out our Phase 1 Catalyst and Research Development Grant program.

# MESSAGE FROM THE DIRECTOR

Out of 30 applications, 21 research groups from nine Divisions and all three campuses, were awarded the funding. These research projects emphasize on the interdisciplinary approach to tackle pandemic's challenges, from mental health, health system resilience, health disparity, public trust, to the use of AI in public health crisis. Research findings will be shared with our members in the coming year. Preparation for the Phase 2 grant program is underway.

Leveraging our interdisciplinary research network, IfP is positioned to conduct large-scale, impactful projects and apply for research funding at provincial, federal and international levels. Working with the UofT 'Canadian Hub for Health Intelligence and Innovation in Infectious Diseases' (HI3), and partnering with Queen's University, IfP is leading an application for the Canada Biomedical Research Fund (CBRF) to address existing data gaps on real-world evidence of pandemic interventions. IfP is also leading an application to the Social Sciences and Humanities Research Council (SSHRS) to develop a nationwide interdisciplinary research team to tackle the huge challenge of misinformation in pandemics. Other major research initiatives are being developed.

This year, we have also completed our first Graduate Studentship Award program. A total of 23 students from seven Divisions co-supervised by faculties from multiple disciplines had received the award. Besides research support, IfP has provided a year-round training program to all recipients, including workshops, seminars, and networking opportunities to broaden their skill set.

IfP is committed to translating knowledge into solutions, strengthening public health policies and advocating for health equity in pandemics and epidemics. To this end, IfP has developed a series of public and academic events to cover topics in pandemic readiness, resilience and recovery, with the aim to facilitate dialogues and collaborations between academic institutions, public health and the health profession. In addition, IfP has launched its new [webpage](#), social media presence and a [quarterly newsletter](#) to reach out to a wider audience.

In summary, 2023 has been an exciting year of growth and development and I look forward to building off those successes in 2024.



**NELSON LEE**

*Director*

# OVERVIEW OF THE INSTITUTE

IfP launched as a University of Toronto (U of T) Institutional Strategic Initiative (ISI) in January 2023. Since our launch, we have built a membership of 150 researchers across all three U of T campuses, distributed over \$600k in research grants and studentship awards and held numerous events to promote the research from the Institute.

## Research Themes



**Readiness**  
To prevent and track evolving pandemics



**Resilience**  
To improve public health policies and interventions



**Recovery**  
To reduce health disparities in pandemics and to build back stronger and more fairly



**Equity**  
Leading the research thrust on a multitude of EDI related issues in pandemics and public health crises



## OUR MISSION

To power transdisciplinary research, train future health leaders in pandemic readiness, resilience, and recovery, and strengthen pandemic responses, policies, and systems in an equitable way that advance national and global health.



## OUR VISION

To be a global leader in helping the world respond to pandemics, overcome infectious disease crises, and prepare for future threats so that everyone, regardless of background or experience, can thrive.



## OUR OBJECTIVES

- Link, coordinate, and support researchers across disciplines and divisions at the University of Toronto to confront the challenges posed by pandemics through innovative, cutting-edge research
- Pioneer training programs to equip future health leaders with the necessary interdisciplinary skillset for pandemic response
- Serve as a knowledge nexus in Canada to inform and strengthen public health response, policies and health systems, advocate for health equity in pandemics, and counter misinformation through public engagement.
- Position ourselves as a global leader in pandemic management and a focal point for international partnerships

# MEMBERSHIP

## LEADERSHIP



**Adalsteinn Brown**  
DLSPH,  
Dean



**Nelson Lee**  
IfP, Director  
DLSPH, Professor



**Tedd Konya**  
IfP,  
Associate Director



**Sara Allin**  
Theme Lead, DLSPH  
Associate Professor



**David Fisman**  
Theme Lead,  
DLSPH, Professor



**Geoff Anderson**  
Theme Lead,  
DLSPH, Professor

## STEERING COMMITTEE



**Arij Al Chawaf**  
Institutional  
Strategic Initiatives



**Zubin Austin**  
Leslie Dan Faculty  
of Pharmacy



**Brian Baigrie**  
Faculty of  
Arts & Science



**Shauna Brail**  
U of T  
Mississauga



**Scott Gray-Owen**  
Temerty Faculty  
of Medicine



**Anita McGahan**  
Rotman School  
of Management



**Fahad Razak**  
Temerty Faculty of  
Medicine



**Jeff Siegel**  
Faculty of Applied  
Science & Engineering



**Simone Vigod**  
Temerty Faculty  
of Medicine

## Our Members at a Glance

IfP launched a membership drive after holding two information sessions early in the year. Membership now includes 150+ faculty and postdoctoral fellows across all three U of T campuses.

Our members are based within 11 U of T divisions:



# ADVISORY COMMITTEE

## COMMITTEE

### Amy Coupal

CEO  
Ontario Caregiver Association

### Eileen DeVilla

Medical Officer  
Toronto Public Health

### Randy Huffman

Chief Food Safety Officer  
Maple Leafs Foods

### Jessica Hopkins

Chief Health Protection &  
Emergency Preparedness Officer.  
Public Health Ontario

### Patricia Houston

Interim Dean  
Temerty Faculty of Medicine

### Claudia Krywiak

CEO  
Ontario Centre of Innovation

### Jeff Latimer

Director General & Strategic  
Advisor for Health Data,  
Statistics Canada

### Stephanie Lockert

Chief Strategy & Planning  
Ontario Health

### Roselle Martino

VP Public Policy  
Toronto Board of Trade

### Camille Orridge

Community Representative

### Brian Schwartz

Former Vice President  
Public Health Ontario

### Sabina Vohra-Miller

Public Supporter  
Vohra-Miller Foundation

# POSTDOCTORAL FELLOWS

## POSTDOCS



**Renzo Jose Carlos  
Calderon Anyosa**  
IHPME, DLSPH



**Tegan Mosugu**  
DLSPH



**Stefanie Tan**  
IHPME, DLSPH



**John Sina Moin**  
Former Postdoc  
DLSPH



**Javad Moradpour  
Taleshi**  
Former Postdoc  
Leslie Dan Faculty of  
Pharmacy

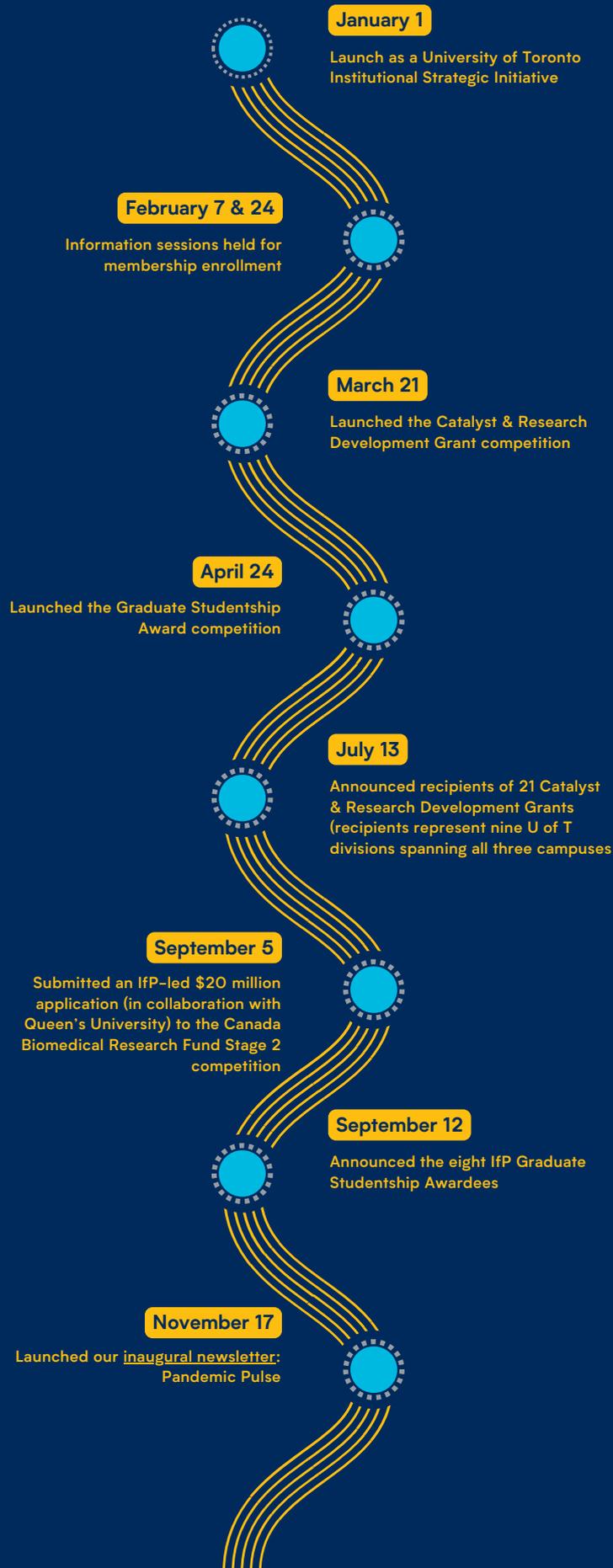


**Fanor Balderrama  
Santander**  
Former Postdoc  
IHPME, DLSPH



**Iffath Unissa Syed**  
Former Postdoc  
IHPME, DLSPH

# HIGHLIGHTS FROM 2023



# FUNDING COMPETITIONS

IfP held two award competitions in 2023; Phase 1 of the Research Catalyst & Development Grants and Graduate Studentship Awards. Both competitions were widely promoted across all U of T divisions maximize interest from the greater academic community. Applications were accepted using Microsoft Forms (except when an applicant requested accommodations) with applicants using their U of T credentials to login, ensuring only internal applicants. Applicants were also asked to complete a voluntary EDI survey, where the results were used to reflect on EDI practices in the funding programs.

The catalyst grants applications were adjudicated by members of the IfP Steering Committee, following a rubric that was provided to applicants when the competition was announced. The IfP Director and Associate Director pre-screened applications and assigned reviewers to reduce conflict of interest. When a conflict of interest was declared, the reviewers assigned to an application were adjusted.

Graduate Studentship applications were reviewed by the Director and Associate Director to determine applicants that met the minimum requirements. A short-list was presented to the IfP Theme Leads with a recommendation for awards approved by the Steering Committee.

## CATALYST GRANTS

The IfP catalyst and research development grant competition was launched in March, in partnership with the Emerging & Pandemic Infections Consortium (EPIC), with 21 projects awarded in July. The purpose of these \$25,000 grants is to provide seed funding to help University of Toronto (U of T) researchers from multiple disciplines connect and collaborate on projects related to pandemic readiness, resilience and recovery. The program supports collaborative, interdisciplinary research projects resulting in more comprehensive applications to external funding opportunities.

The principal investigators represent **nine U of T divisions spanning all three campuses**. “Having investigators from so many different fields within U of T truly exemplifies the interdisciplinary research being performed by IfP and highlights its value as an Institutional Strategic Initiative,” said Nelson Lee, IfP’s Director.

These catalyst grants are a step towards larger, more comprehensive external funding opportunities. Investigators have funding for one year to demonstrate progress that can be used to apply for additional funding to complete more fulsome projects.

[Read about all the projects here](#)

# CATALYST GRANTS

## Early impacts

Halfway through the funding period, the project teams have already started to make some early impacts. Examples include, informing Health Canada on drug supply issues, creation of a multiple-stakeholder developed infographic for untangling gender-based violence, presenting findings with all Chief Medicals Officers of Health in Canada, creation of a dashboard to support data-driven decision-making in the healthcare sector, and presentations made/to-be-made at seven conferences/workshops.



Figure 1. - Screen capture image of the HIVE lab hospital dashboard, developed with IfP catalyst funding. (PI: Shakeri)

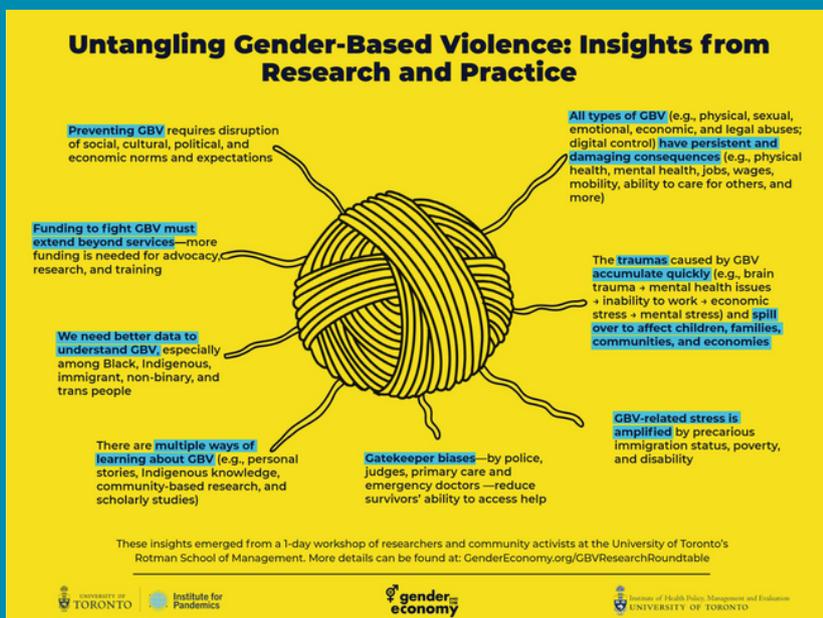


Figure 2. Infographic developed from a workshop held by Institute for Gender and the Economy (GATE) at Rotman School of Management, supported with IfP catalyst funding (PIs: Kaplan & Essue)

## Leveraging catalyst funds

Project teams are already submitting or developing applications to SSHRC (x5), CIHR (x4), NIH, CNPq in Brazil, Banting Postdoctoral Fellowship, American Psychological Foundation, Wellcome foundation.

# GRADUATE STUDENTSHIPS

The IfP Graduate Studentship Award competition was launched in April, with eight students selected for the \$10,000 awards. The purpose of the awards is to foster interdisciplinary research training in pandemic readiness, resilience and/or recovery. All awardees work on projects that are co-supervised by faculties from different disciplines. The studentship program provides the opportunity to participate in IfP programming and activities, attend workshops and seminars, present their research at the IfP Symposium, and network with IfP members across divisions and campuses at the University of Toronto.



Daire Crawford



Daniel Eisenkraft  
Klein



David Jones



Kuganya  
Nirmalarajah



Mete Yuksel



Oliver Gatalo



Stephanie Mayell



Yasmin Aboelzahab

## TRAINING PROGRAM

The IfP Graduate Studentship program consists of monthly events that allows the awardees and graduate students from across the university to learn about transdisciplinary pandemic research, practice research presentations in a small supportive environment, and hone soft-skills through training not provided by their academic programs.

The studentship events are open to graduate students from all divisions within the University of Toronto, with registrants for the first few events coming from the Faculty of Applied Science & Engineering, Dalla Lana School of Public Health, Temerty Faculty of Medicine, Faculty of Arts & Science, Rotman School of Management, Ontario Institute for Studies in Education, and Pharmacy.

<b>Oct</b>	<b>Research Rounds</b> Interdisciplinary research exposure
<b>Nov</b>	<b>Soft Skills – Science Writing</b> Effective writing skills for different media
<b>Dec</b>	<b>Work in Progress – Resilience/Recovery</b> Studentship awardees present research progress and get peer/faculty feedback
<b>Jan</b>	<b>Soft Skills – Social Media</b> Disseminating research results through social media
<b>Feb</b>	<b>Work in Progress – Readiness</b> Studentship awardees present research progress and get peer/faculty feedback
<b>Mar</b>	<b>Soft Skills – Career development</b> Learn how to network for career development and explore options outside academia
<b>Apr</b>	<b>Presenting Research</b> Practice presenting research at the IfP Annual Symposium
<b>May</b>	<b>Celebration</b> Celebrate successes of the past year and graduating students

# METRICS

**150+**

Members across the  
3 campuses



**11**

U of T divisions  
engaged



**240+**

Pandemic-related  
publications



## GRANTS AND AWARDS

### CATALYST GRANTS

**21**

Catalyst and  
Research Grants  
awarded

**\$500k+**

Awarded in total to  
provide seed  
funding

### GRADUATE STUDENTSHIP AWARDS

**8**

Graduate  
Studentship Awards  
granted

**\$80k**

Awarded in total to  
graduate students'  
projects

# PUBLIC ENGAGEMENT

9

Webinars and events held

1500+

Total number of event  
visitors

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## OUR REACH



1509

X (formerly Twitter)  
followers

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187

LinkedIn  
followers

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1037

Email list  
contacts

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# KNOWLEDGE MOBILIZATION

## Webinars/Events

	<p>March 6 – 3rd Annual Vohra Miller Lectures in Critical Public Health Issues – Media Messaging on Equity: How do we do better?</p>
	<p>Climate Change and Infectious Disease Speaker Series – In collaboration with Emerging Pandemic &amp; Infections Consortium (EPIC) and Climate Positive Energy</p> <p>May 4 – Climate and Community Health</p> <p>May 25 – Climate Change, Pandemic Risks and Population Health</p> <p>June 27 – Climate Change and Zoonotic Spillovers</p>
	<p>June 19 – WHO declares COVID-19 no longer a “public health emergency of international concern”: What now?</p>
	<p>September 8 – Strengthening health system resilience: What can Canada and Israel learn from each other?</p>
	<p>October 25 with the Department of Civil &amp; Mineral Engineering – Is it possible to ventilate and stop a future COVID-like pandemic?</p>
	<p>October 27-29 with the School of Interior Design at Toronto Metropolitan University – Healthy Interior Designs: Designing healthy interiors with lessons learned from a pandemic</p>
	<p>December 8 – Emerging lessons from health systems policies and reforms during COVID-19</p>

# EVENT IMAGES



## EQUITY, DIVERSITY & INCLUSION

IfP works to create and promote funding competitions that are inclusive and accessible, particularly providing opportunities for members of equity-deserving groups. Competition details and documents are publicly available and standardized rubrics are used by reviewers to reduce unconscious bias. By collecting self-reported demographic data from applicants, we are able to review competition results to consider the diversity of the applicant pool and resulting awardees.

To foster gender and diverse representation in our Graduate Studentship program, IfP prioritized 30% of the awards for applicants self-identifying as women, non-binary, or from equity-deserving groups, including those who identify as visible minorities, people with disabilities (including invisible and episodic disabilities), 2SLGBTQ+ and/or gender and sexually diverse individuals, and Indigenous Peoples. This resulted in 83% of applicants self-identifying as a member of an equity-deserving group and 87% of awardees.

# LEVERAGING ISI FUNDING & INTERDISCIPLINARY EXPERTISE

As an Institutional Strategic Initiative, IfP leveraged our interdisciplinary membership and took the lead to build teams that developed two applications for federal grant competitions.



## **CBRF (Stage 2)**

The [Canada Biomedical Research Fund](#) is a \$215 million program that aims “to improve pandemic readiness and sector growth by strengthening research and talent capacity in Canada and contributing to and leveraging collaborations across the entire biomanufacturing ecosystem and various sectors”. Led by **Geoff Anderson**, IfP partnered with researchers from Queen’s University to submit a \$20 million application titled, “Clearinghouse for Real-world evidence to Accelerate effective, equitable Pandemic Intervention Development and Evaluation (C-RAPIDE)”. IfP brought formed a team consisting of researchers from five U of T divisions along with partners from five private-sector organizations and seven government agencies. The proposed project will test, refine and evaluate the integration of a novel data clearinghouse to access real-world data (RWD) integrated with an innovative data platform to create real-world evidence (RWE). The goal is to create RWE that is of value to our bio-manufacturing industries, our governments and public health agencies that ensures and an equitable pandemic response that serves all Canadians. Competition results are expected in March 2024.

## **SSHRC Partnership Grant**

The [Social Sciences & Humanities Research Council \(SSHRC\) Partnership Grants](#)

“provide support for new and existing formal partnerships over four to seven years to advance research, research training and/or knowledge mobilization in the social sciences and humanities”. IfP formed an interdisciplinary team, led by **Sara Allin**, **Brian Baigrie** and **Zahra Shakeri**, consisting of researchers from six U of T divisions and three other universities to prepare a Stage 1 application titled, “A Multisectoral Partnership to Mitigate the Impact of Misinformation During Public Health Emergencies”. The proposed project seeks to collaboratively generate and co-create essential data, evidence, sustainable partnerships, and effective strategies to mitigate the harm of misinformation. IfP members are leveraging their existing partnerships for the application and bringing together a partnership group made up of the biomedical industry, government/international health agencies, not-for-profit organizations and community groups. The Stage 1 application is due in early 2024.