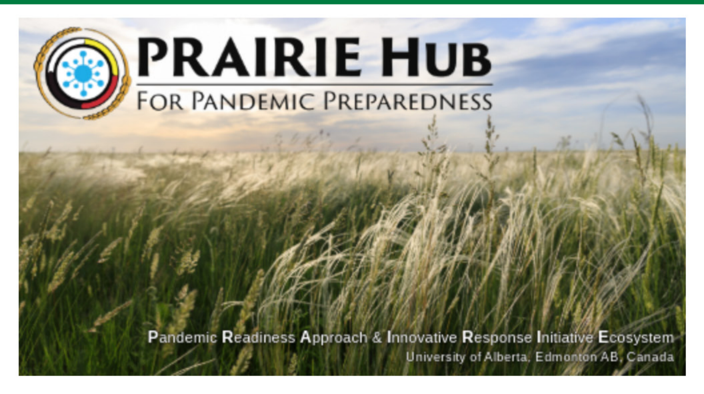


May 2025 Newsletter

Message from Dr. Joanne Lemieux, Executive Scientific Director

"With great excitement, we continue to build on the momentum generated by our CBRF-BRIF Stage 2 funded programs, partnerships, and training initiatives. As we move forward into 2025, the PRAIRIE Hub remains deeply committed to strengthening Canada's biomanufacturing and pandemic preparedness ecosystem. We look forward to further collaboration, innovation, and impactful outcomes across our community."

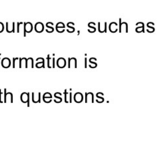
PRAIRIE Hub website
PRAIRIE Hub LinkedIn page

News

The PRAIRIE Hub Training Initiative has launched!

This Initiative provides funding for trainees to travel for training purposes, such as for conferences, workshops, and lab-to-lab exchanges. More information is available on our website or you can email phpp@ualberta.ca with questions.

Administrative & Training Lead



We would like to welcome Brittany Hope to the PRAIRIE Hub team as our new Admin and Training Lead.

Upcoming Events

- **May 20-23, 2025** Upper Bound 2025 (Edmonton)
  - Bridging the gaps between technical and non-technical, theory and practice, academia and industry, current capabilities and future trends.
- **May 21-25, 2025** Banff Conference on Infectious Diseases 2025 (Banff)
  - Registration deadline: May 7, 2025
- **May 21-23, 2025** Inventures 2025 Conference (Calgary)
  - A chance to connect with global innovators, investors, and industry leaders across health, technology, and entrepreneurship sectors.
- **October 28-29, 2025** Symposium on the Science of Vaccine Safety: Bridging Across Pillars (Edmonton)
  - Co-hosted by the Li Ka Shing Institute of Virology and PRAIRIE Hub for Pandemic Preparedness

PRAIRIE Hub CBRF-BRIF Stage 2 Teams

The PRAIRIE Hub was established with the goal of supporting the development of proposals for the CBRF Stage 2 funding call in 2023. This competition focused on:

- Canadian Biomedical Research Fund (CBRF) initiatives focusing on pandemic-related vaccines, diagnostics, small molecule therapeutics, and training in biomanufacturing.
- Biosciences Research Infrastructure Fund (BRIF) initiatives to build biomanufacturing in Canada.
- A total of 103 proposals were submitted by the five pandemic preparedness hubs across Canada.

In May of 2024, 19 proposals were awarded – four of which went to the PRAIRIE Hub teams for a total of $110 million in federal funding.

1. **Developing self-amplifying (sa) RNA vaccines against pandemic virus threats**, Michael Houghton, Director; D. Lorne Tyrrell, Co-Director, University of Alberta; CBRF2-BRIF2 award.
2. **Viral vector vaccine platforms for rapid response to future pandemics**, Peter Pelka, Director, University of Manitoba; Maya Shmulevitz, Co-Director, University of Alberta; CBRF2-BRIF2 award.
3. **Innovative techniques and diagnostic tests for pandemic preparedness and health equity**, Chris Le, Director, University of Alberta; Camille Hamula, Co-Director, University of Saskatchewan; CBRF2-BRIF2 award.
4. **Filling Vials for Pandemic Preparedness**, Greg Korbutt, Director, Alberta Cell Therapy Manufacturing (ACTM) and University of Alberta; BRIF2 award.

These four-year projects are actively advancing Canada's capacity to respond to future pandemic health threats with made-in-Canada solutions. Future newsletters will spotlight achievements of each team in further detail.

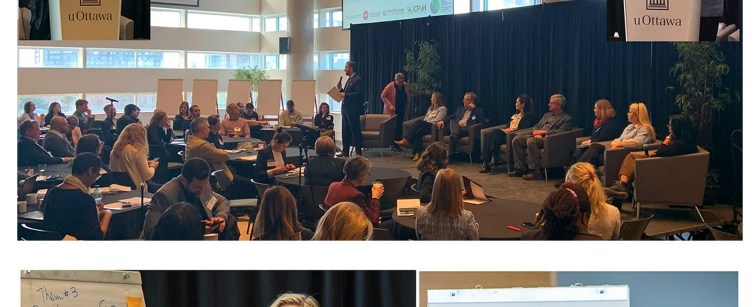
CanPIVOT-PIVOTCan News

The five pandemic preparedness hubs have been working together to build their regional strengths into a national initiative aimed at addressing emerging health threats. Together, the five hubs are called **CanPIVOT-PIVOTCan**.

The five Hubs are:

- **PRAIRIE Hub** for Pandemic Preparedness (UAlberta)
- **CIEBH** Canada's Immuno-Engineering and Biomanufacturing Hub (UBC)
- **HI3** Canadian Hub for Health Intelligence & Innovation in Infectious Diseases (UToronto)
- **CP2H** Canadian Pandemic Preparedness Hub (UOttawa)
- **ECaPPH** Eastern Canada Pandemic Preparedness Hub (UMontreal)

CP2H hosted a **CanPIVOT Workshop** in Ottawa in February 26, 2025, one day after the Government of Canada Health Emergency Readiness Canada (HERC) Symposium. These two events brought government and CBRF Hub members together to get a better idea of their roles and initiatives in pandemic preparedness for 2025.



CanPIVOT Workshop Summary

The CanPIVOT Workshop, led by **Kenneth Lawless** of the CP2H Hub, featured keynote speakers:

- **Allison McGeer, MSc, MD, FRCPC**, Professor, Dept of Laboratory Medicine & Pathobiology and the Dalla Lana School of Public Health, University of Toronto
- **Mark Lievonen**, Principal, JML Advisory Services; former president, Sanofi Pasteur Limited

A scientific panel of CanPIVOT Hub Scientific Directors and government representatives:

- **Matthew Miller**, Scientific Co-Director of the Canadian Pandemic Preparedness Hub (CP2H)
- **Michelle Wong**, Executive Director, Canada's Immunoengineering and Biomanufacturing Hub (CIEBH)
- **Robert McMaster**, Scientific Director, Canada's Immunoengineering and Biomanufacturing Hub (CIEBH)
- **Joanne Lemieux**, Executive Scientific Director, The PRAIRIE Hub for Pandemic Preparedness (PHPP)
- **Scott Gray-Owen**, Co-Director, Canadian Hub for Health Intelligence and Innovation in Infectious Diseases (HI³)
- **Ritu Banerjee**, Interim Head, Health Emergency Readiness Canada (HERC), Department of Innovation, Science and Economic Development (ISED)
- **Sarah Viehbeck**, Chief Science Officer, Public Health Agency of Canada (PHAC)
- **Melissa S. Sutherland**, Director General, Pandemic Preparedness Coordination Directorate, Health Canada

And two interactive workshop sessions where everyone divided into five groups, each focusing on a particular theme and cross-cutting capacity important in pandemic preparedness.

A summary of the information discussed is in preparation and will be shared with the next newsletter.

Other workshops and meetings are in development. Stay tuned for more information.

Opportunities

New Funding Opportunities

- PRAIRIE Hub Training Initiative: accepting applications monthly, to be reviewed on the 1st of each month. Applications must be submitted at least two months prior to travel.
- CEPI's *Innovations to Prepare for Future Epidemics and Pandemics* is welcoming proposals for Focus Areas 1 and 2 on a **rolling basis through 2026.**
  - Focus Area 1: Advancing innovative rapid-response vaccine platforms that can transform the response to a future Disease X.
  - Focus Area 2: Developing new vaccine candidates against CEPI priority pathogens with epidemic or pandemic potential and viral families.

Trainee Opportunities

If you are a PI looking to fill positions within your lab, email us with details and we will include it in our next newsletter.

Recent Publications

Recent Publications from CBRF Members

1. Caulfield T. Vaccine safety, politics and the nocebo effect. Healthy Debate. 2025 [updated 2025 Apr 13].
2. Chan CCY, Gregson DB, Wildman SD, Bihan DG, Groves RA, Aburashed R, et al. Metabolomics strategy for diagnosing urinary tract infections. Nat Commun. 2025;16(1):2658. Epub 20250318. doi: 10.1038/s41467-025-57765-y.
3. Gonzalez V, Word C, Guerra-Pilaquinga N, Mazinani M, Fawcett S, Portfors C, et al. Expanding the bat toolbox: Carollia perspicillata bat cell lines and reagents enable the characterization of viral susceptibility and innate immune responses. PLoS Biol. 2025;23(4):e3003098. Epub 20250415. doi: 10.1371/journal.pbio.3003098.
4. Kinganda-Lusamaki E, Amuri-Aziza A, Fernandez-Nuñez N, Makangara-Cigolo JC, Pratt C, Vakaniaki EH, et al. Clade I mpox virus genomic diversity in the Democratic Republic of the Congo, 2018-2024: Predominance of zoonotic transmission. Cell. 2025;188(1):4-14.e6. Epub 20241024. doi: 10.1016/j.cell.2024.10.017.
5. Kumblathan T, Borg GC, Morrissette C, Clark WI, Le XC, Li XF. Advancing Equity and Empowering Science Students from Indigenous Communities. Anal Chem. 2025;97(2):1041-6. Epub 20250109. doi: 10.1021/acs.analchem.4c05585.
6. Lin YJ, Evans DH, Noyce RS. Rapid Generation of Recombinant Poxviruses Using CRISPR/Cas9 Gene Editing. Methods Mol Biol. 2025;2860:97-114. doi: 10.1007/978-1-0716-4160-6_7.
7. Rana MM, Demirkaya C, De la Hoz Siegler H. Beyond Needles: Immunomodulatory Hydrogel-Guided Vaccine Delivery Systems. Gels. 2024;11(1). Epub 20241226. doi: 10.3390/gels11010007.
8. Salimi E, Absalan S, Robitaille J, Montes J, Butler M, Thomson D, et al. Sensitivity of bulk electrical impedance spectroscopy (bio-capacitance) probes to cell and culture properties: Study on CHO cell cultures. Biotechnol Prog. 2025;41(2):e3519. Epub 20241226. doi: 10.1002/btpr.3519.
9. Sviderskaia K, Meier-Stephenson V. Viral Appropriation of Specificity Protein 1 (Sp1): The Role of Sp1 in Human Retro- and DNA Viruses in Promoter Activation and Beyond. Viruses. 2025;17(3). Epub 20250220. doi: 10.3390/v17030295.
10. Wallace HL, Wight J, Baz M, Dowding B, Flamand L, Hobman T, et al. Longitudinal screening of retail milk from Canadian provinces reveals no detections of influenza A virus RNA (April–July 2024): leveraging a newly established pan-Canadian network for responding to emerging viruses. Can J Microbiol. 2025;71:1-7. Epub 20240927. doi: 10.1139/cjm-2024-0120.

If you have anything you would like included in the next newsletter, please send us an email with the details.

The PRAIRIE Hub is led by the University of Alberta, partnering with the University of Calgary, Lethbridge, Saskatchewan, Manitoba, Regina, and Concordia University (Edmonton), as well as technical schools, non-profit, industry, and government stakeholders within the Hub region.

PRAIRIE Hub for Pandemic Preparedness, 4-020E Katz Group Centre for for Pharmacy and Health Research, University of Alberta, Edmonton, Alberta T6G 2H7, Canada
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