

Overview of funded projects – March 18, 2026

GAPP ANNOUNCEMENT

SPOTLIGHT – ALBERTA-BASED PROJECTS (TEAMS AT IN-PERSON ANNOUNCEMENT)

Improving treatment decisions in thyroid cancer

Clinical Utility of Thyroid GuidePx®: An Alberta-Led Genomic Innovation in Thyroid Cancer Care
This project will validate a genomic test that analyses thyroid tumour biology, giving doctors the evidence they need to make smarter, more personalized treatment decisions—and reducing unnecessary surgeries and improving outcomes for the thousands of Canadians diagnosed with thyroid cancer each year.

Institution: University of Calgary; University of Alberta

Receptor: Qualisure Diagnostics

Genome Alberta

Helping canola withstand heat and drought

Identifying Genetic Traits for Abiotic Stress Resilience During Canola Reproduction

This project will identify the genetic basis of heat and drought tolerance in canola and develop molecular markers that allow breeders to rapidly incorporate these traits into commercial varieties, protecting Canadian farmers from growing yield losses driven by climate change.

Institution: University of Calgary

Receptor: AgGene Inc.

Genome Alberta

Reducing biological risks in underground energy storage

De-Risking Underground Energy Storage in Atlantic Canada Through Deep Biosphere Genomics

This project will help make underground energy storage safer and more reliable by understanding how tiny underground microbes could affect storing clean energy like compressed air and hydrogen in salt caverns. By reducing these risks early, it will support investment and help Atlantic Canada store renewable energy and move toward net-zero emissions.

Institution: University of Calgary

Receptor: Triple Point Resources

Genome Atlantic

Measuring environmental exposures through blood tests

Development and commercialization of QUANTEX-600: A Ready-To-Use Kit for High-Precision Quantitative Exposome Metabolomics

This project will develop and commercialize a faster (one day), more affordable (\$150–200 per test vs \$18K USD cost for other current options) and more minimally invasive (1 ml of blood) test to measure for chemical exposures, transforming routine monitoring and supporting preventive public health across Canada.

Institution: University of Alberta

Receptor: Metabolomix Inc.

Genome Alberta

FULL LIST OF PROJECTS:

1. **Rapid detection of disease-causing pathogens**

Rapid Agnostic Pathogen Identification using Metagenomic Next-Generation Sequencing (RAPID-mNGS)

This project will validate an automated sequencing platform with the potential to detect virtually any pathogen from a single sample, strengthening Canada's capacity for respiratory disease surveillance, antimicrobial resistance monitoring and public health biosecurity.

Institution: The University of British Columbia

Receptor: BugSeq Bioinformatics Inc.

Genome British Columbia

2. **More precise cancer testing to guide treatment**

GenTraceDX: Commercialization of a Turnkey Precision Oncology Platform Featuring Matched Tumor-Normal WES, Real-Time AI-Driven Interpretation, and Clinic-Ready Test Kits for Scalable Deployment

This project will transform cancer testing by replacing fixed, one-time genetic panels with a platform that reads a patient's full tumour genome and uses AI to continuously update its analysis as new research and treatments emerge—turning a single test into a living clinical resource available to patients across Canada, including in rural and remote communities.

Institution: BC Cancer

Receptor: Genetrack Biolabs Inc.

Genome British Columbia

3. **Protecting tomato crops from devastating viruses**

High-Resolution Seed Diagnostics for Tomato Brown Rugose Fruit Virus (ToBRFV) Resistance and Infection via Integrated Omics

This project will validate a non-destructive, AI-powered platform that detects viral infection and predicts resistance traits at the level of individual seeds, protecting Canada's \$875M greenhouse tomato sector and giving breeders and seed producers a faster, more accurate biosecurity tool.

Institution: Simon Fraser University

Receptor: Insporos Technologies Inc.

Genome British Columbia

4. **A new immune-restoring therapy for type 1 diabetes**

Validation and process development scale up of a tolerogenic mRNA/LNP therapeutic

This project will prepare a new treatment that retrains the immune system to stop attacking insulin-producing cells, with the goal of addressing the root cause of type 1 diabetes rather than just managing symptoms.

Institution: The University of British Columbia

Receptor: Integrated Nanotherapeutics

Genome British Columbia

5. **Finding new non-hormonal treatments for endometriosis**

Identification and validation of antibody therapeutic targets for development in endometriosis

This project will use spatial genomics and advanced tissue analysis to identify and validate novel therapeutic targets for endometriosis pain, with the goal of advancing the first non-hormonal antibody therapy for a condition that affects one million Canadians and costs society \$1.8 billion a

year.

Institution: The University of British Columbia

Receptor: AbCellera

Genome British Columbia

6. **Using engineered immune cells to deliver therapies**

Optimized production of immune cells as advanced delivery vehicles for protein therapeutics

This project will optimize the large-scale production of engineered B cells capable of producing therapeutic proteins in patients, accelerating Apiary Therapeutics toward clinical trials for phenylketonuria (PKU)—a lifelong disorder caused by enzyme deficiency that affects 1 in 12,000 Canadians and leads to neurological impairment—and other chronic diseases.

Institution: University of British Columbia

Receptor: Apiary Therapeutics

Genome British Columbia

7. **A new RNA therapy for dangerous blood clots**

A first-in-class dual-function siRNA to address limitations of anticoagulants in thrombotic disease

This project will advance a first-in-class RNA therapy that simultaneously targets the coagulation and inflammatory drivers of thrombosis, moving it through critical preclinical validation and toward clinical development for patients with cancer-associated and other forms of thrombotic disease.

Institution: The University of British Columbia

Receptor: SeraGene Therapeutics Inc.

Genome British Columbia

8. **Turning complex infection data into clear diagnoses**

Targeted Metagenomics for Enhanced Infectious Disease Diagnosis

This project will develop and validate a clinically adjudicated interpretive framework for the ONETest™ metagenomic platform, transforming complex pathogen data into clear, actionable medical decisions that reduce hospital stays, curb antibiotic overuse and unlock broader adoption across Canadian hospital networks.

Institution: The University of British Columbia

Receptor: Fusion Genomics

Genome British Columbia

9. **Improving treatment decisions in thyroid cancer**

Clinical Utility of Thyroid GuidePx®: An Alberta-Led Genomic Innovation in Thyroid Cancer Care

This project will validate a genomic test that analyses thyroid tumour biology, giving doctors the evidence they need to make smarter, more personalized treatment decisions—and reducing unnecessary surgeries and improving outcomes for the thousands of Canadians diagnosed with thyroid cancer each year.

Institution: University of Calgary; University of Alberta

Receptor: Qualisure Diagnostics

Genome Alberta

10. **Measuring environmental exposures through blood tests**

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Institution: University of Alberta

Receptor: Metabolomix Inc.

Genome Alberta

11. Helping canola withstand heat and drought

Identifying Genetic Traits for Abiotic Stress Resilience During Canola Reproduction

This project will identify the genetic basis of heat and drought tolerance in canola and develop molecular markers that allow breeders to rapidly incorporate these traits into commercial varieties, protecting Canadian farmers from growing yield losses driven by climate change.

Institution: University of Calgary

Receptor: AgGene Inc.

Genome Alberta

12. Better wildlife monitoring for responsible development

Genomic Decision Support Tools for Responsible Resource Development

This project will co-develop and validate environmental RNA and airborne sampling technologies for non-invasive Arctic wildlife monitoring, cutting costs and timelines for environmental assessments while supporting Indigenous participation in resource stewardship across Northern Canada.

Institution: University of Manitoba

Receptor: White Otter Biotech

Genome Prairie

13. Breeding better little potatoes, faster

Developing Genomic Selection Platform for Little Potatoes Towards Improving Yield and Tuber Quality Traits

This project will build a genomic selection platform for little potato breeding that accelerates the development of higher-yielding new varieties, cutting the breeding cycle by three to four years and improving profitability for Canadian farmers and seed producers.

Institution: University of Saskatchewan

Receptor: Tuberosum Technologies Inc.

Genome Prairie

14. Testing cancer treatments on patient-derived tumors

OncoForma: A Functional Precision Oncology Platform to End the Guesswork in Cancer Treatment

This project will validate a precision oncology platform that combines genomic sequencing with tumour organoid screening to give oncologists empirical evidence for treatment selection, improving outcomes for the thousands of Canadians each year whose cancer has stopped responding to first-line therapy.

Institution: University of Saskatchewan

Receptor: Oncoforma Biotechnologies Inc.

Genome Prairie

15. Faster, on-site testing to keep dairy products safe

Optimization of the Nanopore-Optimized Mobile Analysis for Diversity (NOMAD) System for Analysis of Dairy Product Quality

This project will develop and commercialize a portable, same-day genomic testing system for microbial detection in dairy powder, giving Canadian processors a faster, on-site alternative to slow lab-based testing methods and reducing the waste, recalls and lost revenue that cost the industry hundreds of millions annually.

Institution: University of Guelph
Receptor: Gay Lea Foods Co-operative Limited
Ontario Genomics

16. **Breeding dairy cattle for a changing climate**

Future-proofing the Canadian dairy herd: a new genomic breeding tool to enhance climate resiliency

This project will develop and deploy a new genomic selection tool that simultaneously optimizes cattle for reduced greenhouse gas emissions, heat stress resilience and productivity, positioning Canada as a global leader in climate-smart dairy genetics while delivering measurable economic and environmental benefits to producers at home and abroad.

Institution: Lactanet
Receptor: Semex Alliance
Ontario Genomics

17. **Cleaning up petroleum pollution using microbes**

A novel approach for petroleum pollution: in situ anaerobic biodegradation

This project will strengthen bioremediation techniques for petroleum pollution, which offer lower-cost, sustainable treatment option, harnessing microorganisms that degrade hydrocarbons—but which can be challenging to assess. It will develop and validate a genomic framework for monitoring and quantifying anaerobic hydrocarbon biodegradation at contaminated sites.

Institution: University of Toronto
Receptor: Federated Co-operatives Limited
Ontario Genomics

18. **Targeted RNA delivery for aggressive brain cancer**

A Peptide-Directed siRNA Delivery Platform for Glioblastoma Multiforme: Targeting Genes Driving Treatment Resistance

This project will advance an AI-enabled peptide platform for targeted drug delivery to the brain through preclinical validation for glioblastoma—a lethal brain cancer with few effective treatments—applying the same drug development approach that took ProteinQure's lead cancer program from discovery to clinical trial in under four years.

Institution: University of Toronto
Receptor: ProteinQure
Ontario Genomics

19. **Designing safer, more precise gene-editing tools**

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This project will develop Dualase®, a two-site genome editing platform designed to precisely remove, repair, or insert DNA sequences as a therapeutic for serious genetic diseases, harnessing machine learning to increase accuracy and efficiency in gene-editing.

Institution: Western University
Receptor: Specific Biologics Inc.
Ontario Genomics

20. **Faster, safer diagnosis for rare genetic diseases**

Synthetic Reference Epigenomics: Building a Secure Cloud Framework for Scalable Rare Disease Diagnostics

This project will expand and future-proof EpiSign™—the world's only clinically validated whole-genome epigenetic diagnostic test—by building AI-powered, privacy-preserving tools that work

across sequencing platforms and tissue types, bringing accurate diagnoses to more of the 446 million people worldwide living with rare genetic disorders.

Institution: London Health Sciences Centre Research Institute

Receptor: EpiSign Inc.

Ontario Genomics

21. **Helping live-saving cancer drugs get to market quicker**

Drug Distribution in Tissues

This project will help commercialize a first-of-its-kind AI platform that maps drug distribution in patients, helping pharmaceutical companies understand whether their candidate drugs are in the right cells earlier in development.

Institution: Hartland Jackson, Sinai Health System (Mount Sinai Hospital)

Receptor: To be announced

Ontario Genomics

22. **Delivering new ALS treatment options**

Small Molecule Preventing and Reversing TDP-43 Protein Aggregation as Therapeutic for Amyotrophic Lateral Sclerosis

This project will advance a new therapy, which directly targets the protein clumping driving ALS and other neurodegenerative diseases, through preclinical validation—moving it closer to clinical trials and offering hope to patients who currently have no disease-modifying treatment options.

Institution: University of Toronto

Receptor: Neuropeutics Inc.

Ontario Genomics

23. **Turning food waste into valuable chemicals**

Genomics-Driven Upcycling of Food Waste to Medium-Chain Fatty Acids Using Engineered Anaerobic Consortia

This project will engineer microbial communities capable of converting food waste into a full range of medium-chain fatty acids, creating a domestic, low-carbon alternative to palm-derived chemicals for Canadian industry.

Institution: University of Toronto

Receptor: SymBL Innovations Inc.

Ontario Genomics

24. **Smarter soybean breeding using data and AI**

GenoPhAI: Combining genomics, phenomics and artificial intelligence to enable data-driven breeding in soybean

This project will build a data-driven breeding platform that combines drone-based phenotyping, AI and genomic prediction to help Prograin develop higher-yielding, disease-resistant soybean varieties faster, cutting breeding cycle time by 25% and increasing genetic gain by 50% to keep Canadian seed companies competitive with multinational players.

Institution: Université Laval

Receptor: Prograin Inc.

Genome Québec

25. **Speeding up bio-manufacturing with smart screening**

SpectraLens: Intelligent Screening for High-Throughput Biotransformation in Engineered Biofactories

This project will develop a high-throughput, genomics-driven platform that dramatically accelerates duckweed clone selection for high-value plant compounds, reducing Canada's

reliance on imported bioactive ingredients and positioning Aplantex to scale domestic biomanufacturing for pharmaceutical, nutraceutical and cosmetic markets.

Institution: Université Laval

Receptor: Aplantex

Genome Québec

26. Healthier calves through better IVF screening

Molecular Markers for Healthy Calves: Optimizing IVF conditions with Epigenetic Screening

This project will use advanced genomic tools to identify molecular markers of healthy embryo development in cattle, giving Canadian breeders more reliable IVF outcomes and accelerating genetic improvement in their herds.

Institution: CHU Sainte-Justine

Receptor: Boviteq

Genome Québec

27. Restoring missing proteins in a rare genetic disease

Towards the commercialization of an omics-guided RNA-based therapy for Neurofibromatosis

This project will develop a first-in-class mRNA-based therapy to restore the missing proteins that cause neurofibromatosis—which causes chronic tumors causing hearing loss, neuropathy, neurologic decline, and reduced quality of life—offering patients a potentially curative treatment where none currently exists.

Institution: Montreal Neurological Institute (McGill University)

Receptor: RNA4RARE Therapeutics Inc.

Genome Québec

28. Testing new cancer vaccines using real human tumors

IMMUpredict: A platform for intratumoral vaccination of skin cancers

This project will build a human tissue-based testing platform that more faithfully replicates how tumours interact with the immune system, accelerating the development of next-generation cancer immunotherapies and vaccines.

Institution: Sir Mortimer B. Davis-Jewish General Hospital McGill University

Receptor: TATUM Bioscience

Genome Québec

29. Using beneficial bacteria to improve cannabis quality

Improving Cannabis Resilience and Quality Using Bacteria-Based Biostimulants

This project will validate a natural, bacteria-based biostimulant that protects cannabis crops from harmful fungi and toxins while improving cannabinoid consistency, giving Canadian growers a safer and more sustainable alternative to chemical treatments.

Institution: McGill University

Receptor: BioSun Solutions

Genome Québec

30. Simplifying and improving genomic test ordering

SmartRequisition: Scalable Genomic Test Requisitions

This project will develop and deploy an AI-powered platform that automates the capture of structured patient phenotype data at the point of ordering, reducing a critical bottleneck in genomic medicine and enabling faster, more accurate diagnoses across Canadian health centres.

Institution: IWK Health Centre

Receptor: PhenoTips

Genome Atlantic (primary), Ontario Genomics (secondary)

31. Reducing biological risks in underground energy storage

De-Risking Underground Energy Storage in Atlantic Canada Through Deep Biosphere Genomics

This project will help make underground energy storage safer and more reliable by understanding how tiny underground microbes could affect storing clean energy like compressed air and hydrogen in salt caverns. By reducing these risks early, it will support investment and help Atlantic Canada store renewable energy and move toward net-zero emissions.

Institution: University of Calgary

Receptor: Triple Point Resources

Genome Atlantic

32. Producing a natural sugar alternative through fermentation

Precision fermentation of Brazzein: Enhancing biosynthesis efficiency and optimizing scale-up parameters for commercialization

This project will scale the production of brazzein—a natural protein more than 2,000 times sweeter than sugar—through precision fermentation, advancing Canada's biomanufacturing capacity and creating a sustainable, commercially viable alternative to conventional sweeteners.

Institution: The Verschuren Centre

Receptor: Biofect Innovations Inc.

Genome Atlantic

33. Protecting wild blueberries from drought and disease

Microbiome-based design of microbial consortia to mitigate stem blight and improve drought resilience in wild blueberry agroecosystems

This project will use genomic tools to understand how drought reshapes the blueberry root microbiome and develop a locally adapted, natural microbial product that restores plant resilience and reduces the need for chemical fungicides for Atlantic Canadian growers.

Institution: Dalhousie University

Receptor: Bragg Lumber Inc.

Genome Atlantic