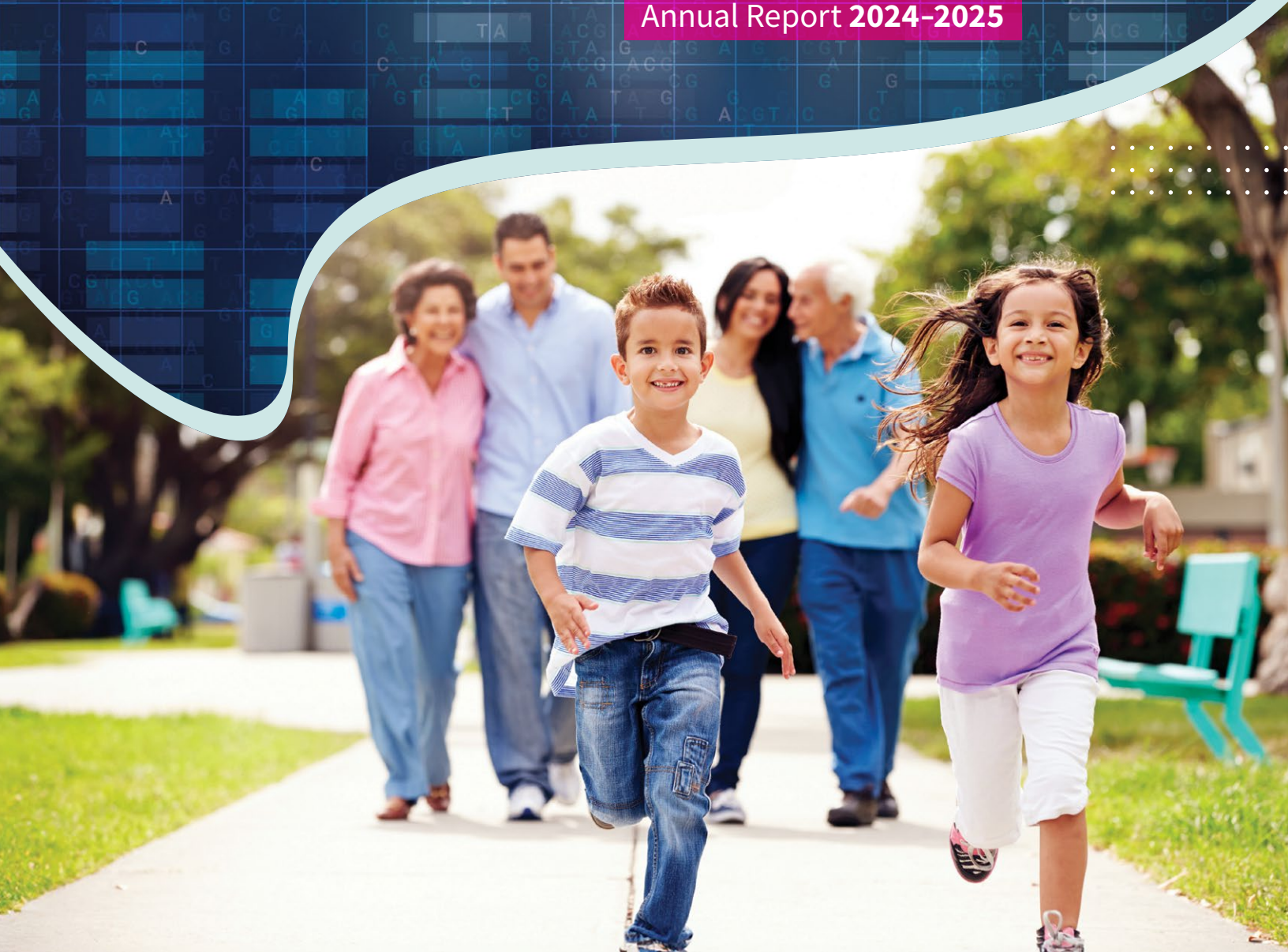
20 YEARS
Genome Alberta

# GENERATING IMPACT

Annual Report **2024–2025**



20 YEARS
Genome Alberta

## OUR VISION

**To inspire and catalyze genomics solutions that benefit Albertans and the world.**

## OUR MISSION

To promote and support genomics solutions for end-users' needs to create value and investment opportunities through excellent science, technology and application development, collaborations and partnerships.

As a not-for-profit research funding organization, we're here to help initiate, fund and manage your genomics partnerships and research. Together, we will catalyze genomics solutions that benefit Albertans and the world.

This year Genome Alberta is celebrating 20 Years of innovation as part of a Canadian network established to build international leadership in genomics, develop research platforms and support regional priorities. Since our establishment in 2005, Genome Alberta has enabled **$662M** of genomics research and has helped secure **$142.5M** of federal research funds for Alberta-led projects, creating thousands of Alberta jobs and **27** spin-off companies.

We add significant value to the provincial innovation ecosystem by:

- Working collaboratively with innovation organizations to drive technology development and implementation.
- Securing significant federal funds for Alberta-led research and increasing innovation support for our provincial priorities.
- Ensuring scientific excellence is supported by social sciences research and addressing ethical, legal and environmental barriers.

# CELEBRATING 20 YEARS

## of Generating Impact for Alberta

**Genome Alberta 2024-2025 Annual Report**

### This year, Genome Alberta proudly celebrated 20 years of advancing genomics research and innovation in Alberta and across Canada.

From our early investments in foundational research to today's leadership in translating genomics into real-world solutions, our work has helped shape Alberta's vibrant life sciences ecosystem. As we mark this milestone, we reflect on two decades of progress, partnership, and impact—and look ahead to the next chapter of discovery, innovation, and collaboration that will continue to drive Alberta's leadership in the genomics revolution.

Some highlights from this past year include:

- **Celebrating 25 years of impact** with Canada's genomics community at the Canadian Genomics Summit in Ottawa, ON.
  - » Honoured Genome Alberta–nominated winners **Dr. Kim TallBear** and **Dr. Filippo Miglior** at the National Genomics Impact Awards for advancing Indigenous-led research and innovation in the dairy sector, respectively.
  - » Took new steps forward with the Canadian Genomics Strategy and investments to **drive commercialization** with **$96M** for the Genomic Applications Partnership Program; **$2.5M** for **increasing access to the large-scale genomic data** researchers, innovators and companies need to harness the bio-revolution; **$20M** for Canada's six regional Genome Centres to strengthen alignment with regional and provincial genomics efforts.
- **Delivering the first year of programs** under the **$15M** Alberta Technology & Innovation investment to advance *Toward 2050* and genomics as a key technology driver for Alberta's life sciences sector.
  - » **$1.7M** invested through *Healthy Outcomes in Genomics Innovations*, with Genome BC and other key partners, was leveraged to **$5.9M** for eight new initiatives to bring technology to patients, making it faster to test, diagnose, or treat health conditions, and improve the delivery of personalized medicine in Alberta and BC.

  - » Hosted the *Genomics at Work for the Energy Sector* session with 90+ participants to inform priorities for upcoming natural resources and environment initiatives; a *What We Heard* report is available online.

- Supporting job creation and technology company growth through the second year pilot **Talent Placement Programs**. These programs match recent business and computational biology/bioinformatics graduates with genomics-based companies seeking the skills needed to grow and scale their operations..
- In collaboration with Results Driven Agriculture Research (RDAR), Genome Alberta announced **~$3.3M** in funding for One Health projects. One Health recognizes the intrinsic link between the health of people, animals, and the environment, an essential approach for anticipating, preventing, detecting, and controlling diseases that spread between plants, animals, and humans.

In addition to these exciting milestones, Genome Canada has announced several new investments:

- Estimated **$200M** investment in the Canadian Precision Health Initiative, including $81 million in Government of Canada investment through Genome Canada and co-funding from industry, academia and public sector partners. This landmark initiative will build Canada's largest-ever collection of human genomic data—more than 100,000 genomes. As part of Pillar 1, Alberta researchers will develop new datasets to accelerate precision health solutions for assessing risk and prevention of strokes, early interventions for children and youth with mental health disorders, improving the efficacy and safety of pediatric drugs, and reducing diagnosis time for patients with rare diseases.
- **$2.45M** for Alberta-led Technology Platforms—GlycoNet Integrated Services (GIS) and The Metabolomics Innovation Centre (TMIC) to enable an expanded suite of data, tools and expertise from two Edmonton-based facilities. These groups provide services to a diverse clientele, spanning sectors of precision health, food production and safety, and environmental analysis.
- **$4.3M** initiative supporting 12 projects across Canada, including two Alberta-led projects for advanced monitoring of ecosystems and public health threats by leveraging eDNA technology—a non-invasive genomics tool to detect genetic material shed by organisms into water, soil, or air.

As we look back, we are proud of how far we have come. As we look ahead, Genome Alberta will continue to build on two decades of success to deliver on *Toward 2050*. Together with our partners, we remain committed to harnessing the power of genomics to drive discovery, economic growth, and societal benefit.

# REFLECTIONS ON 20 YEARS
## of Genomics Impact in Alberta

### Oryssia Lennie, BOARD CHAIR

"Over the past two decades, Genome Alberta has demonstrated the power of partnership—uniting researchers, industry, and government to turn vision into impact. Our success is built on collaboration and a shared belief in the potential of genomics to drive solutions that matter. As we look to the future, we remain committed to advancing innovation that strengthens Alberta's economy, supports sustainable growth, and improves lives across our province and beyond."

### David Bailey, PRESIDENT & CEO

"As we celebrate 20 years of progress, the impact of Alberta's genomics community has never been clearer. The achievements highlighted here reflect how far we've come—from discovery to application—and how collaboration continues to turn innovation into tangible results. Together, we are shaping a future where genomics drives solutions that strengthen our economy, our environment, and the health of our communities."

### Gijs van Rooijen, CSO

"Genome Alberta–supported researchers have delivered discoveries from decoding complex diseases and their treatments to unlocking breeding insights for agriculture producers to understanding functions of microbe communities for improving environmental outcomes. Our investments continue to turn science into real-world impact. As we look ahead, we're focused on deepening collaboration and harnessing the power of big data and artificial intelligence to accelerate the future of innovation in our province."

# GENOME ALBERTA IMPACT

**Delivering results for Alberta, our investments into cutting-edge research and technology have created skilled jobs, supported new spin-off companies, and generated large-scale data assets that continue to drive innovation and growth in Alberta's life sciences sector.**

Supporting research commercialization and talent development are vital to Alberta's economic diversification—and we are just getting started. By pairing advances in genome sequencing with Alberta's strengths in artificial intelligence and machine learning we are accelerating the translation of discovery into market-ready solutions, attracting private investment, and building new companies that drive the province's innovation economy.

**$662M**
Total Genome Alberta Enabled Portfolio

**2,400+**
Jobs Created

**27**
Companies Created

**$33.5M**
Industry Investments into Genome Alberta-led Projects

**$142.5M**
Federal Funds for Alberta-led Projects

**120+**
Innovations Arising from Alberta-led Projects

## ALBERTA'S GENOME CENTRE

**In 2005, Genome Alberta** was created to advance our provincial priorities through genomics solutions. To date, this includes supporting over 149 genomics-focused initiatives, with a value of over $662M, including over $261M in federal funding.

## INSIGHT TO IMPACT.

**As an integral partner in Alberta's innovation ecosystem, we've made a big impact!**

**Our vision continues to inspire and catalyze genomics solutions that benefit Albertans and the world. For over 20 years we have achieved our success working together through effective collaboration and partnerships that drive results in key sectors of Alberta's economy.**

**We are proud of our applied research portfolio with a diverse range of innovation initiatives across sectors of human health to agriculture to forestry to energy and the environment.**

## HUMAN GENOME PROJECT

In 2003, the **Human Genome Project**, a monumental achievement, sequenced over 90% of the human genome, providing the first comprehensive map of human DNA. This has accelerated breakthroughs in personalized medicine, and biotechnology.

## HOW BIG IS *BIG DATA*?

**Did you know?** The **UK Biobank**—the biggest whole-genome dataset in the world—has over 30 petabytes of data. That's approximately the same as 480,000 iPhones!

## WHOLE GENOME SEQUENCING

**Did You Know?** Whole genome sequencing helps doctors diagnose genetic diseases faster, tailor treatments to each patient's unique DNA, and avoids costly trial-and-error care—enabling a more precise, efficient, and sustainable healthcare system.

## FUTURE FORESTS

Genomics tools enable earlier selection of high-performance seedlings, reducing breeding cycles from 30 to 15 years, and accelerating reforestation with better-adapted trees to boost long-term forest health and productivity.

## BETTER LIVESTOCK BREEDING

Alberta-developed genomic platform, now commercialized by **Neogen**, is helping beef producers boost hybrid vigour, improving feed efficiency, fertility, and performance in crossbred cattle.

# GENERATING

## GLOBAL TECH LEADERSHIP

**GlycoNet**, Canada's national glycomics network, is translating sugar science into global health solutions. Through international partnerships their successes include advancing 150+ research projects, and spin-off companies like **AmacaThera** and **48Hour Discovery**.

## HEALTHIER HOGS

Pork producers, in collaboration with researchers, are using genomic tools to breed pigs with greater disease resilience—reducing losses from illness, lowering treatment costs, and improving herd productivity.

## SMALL MOLECULES & BIG DATA

**The Metabolomics Innovation Centre** (TMIC), has generated globally recognized datasets and essential data tools transforming the ways innovators access and interpret data. These resources are accessed around the world by thousands of researchers and companies accelerating drug discovery, diagnostics and personalized medicine.

## LIFE SAVING DIAGNOSTIC

New metabolomics-based test identifies bloodstream infections and determines antibiotic susceptibility in under 20 hours, significantly reducing mortality rates and healthcare costs through timely, targeted treatment.

# IMPACT

20 YEARS
Genome Alberta

## ROADMAP FOR RARE DISEASE

Whole genome sequencing shortens rare disease diagnosis from years to weeks—enabling earlier care and giving doctors a personalized genomic roadmap to guide treatment decisions for patients.

## FIGHTING ANTIMICROBIAL RESISTANCE

AMR is one of the greatest global health threats of our time. Genomics is enabling real-time tracking of antimicrobial resistance through wastewater surveillance as an early-warning surveillance system—to support public health and appropriate antibiotic use.

## PIPELINE INTEGRITY INNOVATION

Through a $7.9M initiative, in collaboration with 16 industry partners, genomic tools and predictive models were developed to proactively manage microbial corrosion, enhancing pipeline integrity and reducing environmental risks.

## DATA TO DRUG DISCOVERY

Originating from the U of A, Edmonton-based **DrugBank**, provides AI-ready datasets to clients worldwide, including top pharma companies, to streamline research, reduce development costs, and accelerate drug discovery worldwide.

# GENERATING

## FOREST PEST DEFENCE

Genomics tools are improving the selection of lodgepole pine trees resilient to mountain pine beetle, supporting fiber supply stability, reduced losses, and more resilient reforestation strategies.

## CLIMATE-SMART DAIRY

New genetic evaluation tool helps dairy producers select for lower-emission cattle, advancing environmental goals while maintaining milk yield—strengthening Canada's agri-food sector on the path to net-zero.

## SUPPORTING BIOTECH TALENT

In 2019, **BioNet Alberta** was established to bring together experts in biology & data analysis, building capacity for innovation from big data. Membership now is over 200 people and over 50 industry-academia collaborations have been supported.

# IMPACT

20 YEARS GenomeAlberta

## WETLAND REMEDIATION

Advancing cost-effective remediation tailored for northern climates through wetland systems to treat oil sands wastewater—using genomics to improve microbial function, and water quality, with low-impact, nature-based solutions.

## RESEARCH TO REVENUE


Successful genomics companies are built on the foundational science from our investments.

Companies like **Molecular You**, **Oncohelix**, **Nanostics** and **Nimble Science** transform discoveries and data into products and services improving health outcomes.

Genomics

# IMPACT AWARD RECIPIENTS

**Genome Canada celebrates two Alberta-nominated individuals for their national excellence and impact in genomics.**

## Societal Impact Award

### Dr. Kim TallBear

*Professor, Faculty of Native Studies, University of Alberta*

**Dr. Kim TallBear has spent much of her academic career working to elevate Indigenous voices in science.**

A social scientist who studies the politics of science and technology, she's an unwavering advocate for decolonizing science, promoting ethical engagement with genomics and Indigenous self-governance.

Through collaboration with non-Indigenous scholars and institutions, she has worked to build new knowledge about scientific self-governance and Indigenous well-being and to elevate Indigenous scholars' voices and work. For example, Dr. TallBear has helped to bridge gaps in STEM education by supporting the participation of more than 450 Indigenous students from around the world in the Summer Internship for Indigenous Peoples in Genomics program.

She was nominated for a Genomics Impact Award by Genome Alberta for her outstanding social, cultural and academic contributions to the field.

## Industry Collaboration Award

### Dr. Filippo Miglior

*Senior Advisor, Genetic Strategic Initiatives, Lactanet*

**Dr. Miglior considers working with others the best part of his job—and the key to his success.**

He has spent more than three decades spearheading large, collaborative projects with academia, government and industry establishing Canada as a global leader in dairy cattle genetics.

His innovative thinking and strategic approach have revolutionized dairy farming, bridging the gap between genomic research and practical applications. In particular, Dr. Miglior has worked with partners across Canada, Australia, Switzerland, Denmark, Ireland, Italy, Spain, Germany, the United Kingdom and the United States to pioneer genomic solutions that have improved the way dairy cows digest their feed, while maximizing milk production, herd health and accelerating sustainability of the dairy industry through significant methane emissions reduction.

He was nominated for a Genomics Impact Award by Genome Alberta and Ontario Genomics for his innovative and collaborative research.

## Genomics at work in

# ALBERTA'S KEY SECTORS

## Overview of Funded Portfolio

**Genome Alberta's investments are fueling innovation where it matters most—developing new technologies, generating vital data, and accelerating bio-based solutions that drive sustainability, diversify industries, and unlock Alberta's economic potential.**

**In 2024–25 Genome Alberta was…**

Lead on **21** projects

Co-lead on **5** projects

Participant on **3** projects

TOTAL

**29 PROJECTS**

**$187M VALUE**

### AGRICULTURE AND AGRI-FOOD PROJECTS

Genomics is strengthening the resilience and sustainability of our food systems, enhancing productivity, improving animal health, and advancing the safety and quality of food products.

**6** Projects **$49.7M**

### HEALTH

Genomics is reshaping health care delivery by providing better tools for prevention, diagnosis, and treatment, and bringing the promise of personalized medicine closer to every Albertan.

**13** Projects **$110M**

### FORESTRY

Genomics is equipping forest management professionals in the public and private sectors with the knowledge they need to sustain the long-term health of Alberta's forests, supporting resiliency and sustainability of the forest sector.

**1** Project **$6M**

### ENVIRONMENT AND ENERGY

By uncovering how living systems work at the molecular level, genomics is driving innovations that conserve biodiversity, reduce emissions, mitigate environmental risks, and advance sustainable reclamation practices.

**6** Projects **$19M**

### TECHNOLOGY PLATFORMS

Advancements in core 'omics technologies are building critical data assets, attracting top talent, driving new investment, and strengthening Alberta's position as a global hub for innovation.

**3** Projects **$2.8M**

# Genomics at work in the HEALTH SECTOR

## Improving Patient Outcomes and Health Care Delivery

**Precision medicine uses a person's unique genetic, environment, and lifestyle information to prevent, diagnose, and treat disease more effectively.**

By analyzing genomic data, health care providers can better identify the causes of illness, predict how patients will respond to specific treatments, and tailor care to the individual. This approach improves outcomes, reduces trial-and-error in treatment, and supports earlier interventions—helping deliver more efficient, personalized, and effective health care.

### NEW Initiative: **Healthy Outcomes Through Genomic Innovations**

As a catalyst for genomics innovation in health care, Genome Alberta strategically targeted a new initiative to broaden the adoption of precision medicine approaches to improve health outcomes for Albertans.

The **Healthy Outcomes Through Genomic Innovations** initiative was launched in Fall 2024 with a $1.5M investment envelope, to:

- Focus on near term solutions (duration of 6–18 months).
- Expand genomics-based testing and technologies into routine care.
- Find solutions to address equitable access to genomics-based testing.
- Enable improved integration of genomics data into digital health infrastructure.

Eight new funded initiatives, with a total value of $5.9M, bring together top research teams and health authorities to overcome barriers for adoption of new technology to routine patient care, including:

- Detecting lung cancer at an early-stage with a fast, cost-effective, at-home screening test.
- Establishing performance criteria for rapid testing of blood stream infections to reduce time needed for life-saving antibiotic prescribing decisions.
- Conducting a health economics evaluation of proactive genomic surveillance to enable early interventions that prevent the spread of multi-drug-resistant bacteria in healthcare environments.
- Improving treatment outcomes and reducing side effects from medications by standardizing reporting of genetic test results helping doctors better tailor doses and medication choices for individual patients.
- Enhancing chemotherapy safety for children by improving tests that predict severe drug reactions in pediatric cancer patients.
- Improving kidney transplant success rates by using an improved, non-invasive test to detect signs of organ weakness earlier and more precisely monitor the health of kidneys.
- Upgrading testing for gene fusions—genetic changes that drive many cancers—to enable more precise cancer diagnosis.
- Improving detection of hereditary conditions that can lead to heart failure, allowing for earlier and more accurate diagnosis.

## The future of health care is personal… and data driven.

The Canadian Precision Health Initiative (CPHI), led by Genome Canada, will build Canada's largest-ever collection of human genomic data—more than 100,000 genomes representing the diversity of Canada's population. In a Canadian first, the CPHI will build a public genomic data resource that reflects the nation's diverse population.

At the core of the CPHI is the Pan-Canadian Genome Library (PCGL)—the national data platform selected to securely store and safely manage the genomic and associated health data generated through the initiative. Together, the CPHI and PCGL will form the foundation of a sustainable, national genomics infrastructure that supports collaboration and drives innovation in precision health.

This initiative is supported by an $81 million in Government of Canada investment through Genome Canada and is expected to result in a total investment of $200 million with co-funding from industry, academia and public sector partners.

Four new initiatives, with top researchers from Alberta institutions, will contribute to the **Pan-Canadian Genome Library (PCGL)** to reflect Canada's diversity and accelerate health breakthroughs:

- **More Effective Stroke Prevention and Risk Assessment for Albertans**

  By sequencing the genomes of stroke patients, researchers are revealing pathways of brain injury and recovery, refining risk scores, and using AI to identify causes. As one of Canada's leading causes of death, stroke research is driving personalized therapies and prevention strategies to reduce disability and save lives.

- **Supporting Earlier Intervention for Children and Youth with Mental Health Disorders**

  Mental health disorders affect 1.6 million Canadian children and youth. This sequencing project will identify genetic and environmental risk factors for children and youth with mental health disorders, through building a national network, standardizing data tools, and shaping policies to enable earlier, equitable interventions.

- **Accelerating Rare Disease Diagnosis**

  Expanding crucial datasets to better reflect Canada's diversity will ultimately help to end the journey to diagnosis for families living with rare disease. These families are often marginalized and face substantial barriers to accessing appropriate care and social services. The comprehensive data generated from these efforts will improve interpretation and access to testing.

- **Improving Drug Safety and Effectiveness in Children**

  To enhance pediatric drug safety, this initiative will build on the Canadian Pharmacogenomics Network for Drug Safety's patient databank which spans 100,000 medication uses and 10,000 adverse reactions. This work will sequence new genomes and identify biomarkers for seven severe drug reactions in pediatric oncology patients and empower safer treatments for children.

**Visit genomealberta.ca/project-portfolio for more information on our Health projects.**

# Genomics at work in the AGRICULTURE SECTOR

## Improving Productivity and Competitiveness of Agriculture Producers

## Using a One Health Approach

**The World Health Organization defines One Health as an integrated unifying approach to optimize the health of people, animals and the environment.**

It is particularly important for food and water safety, control of diseases that spread between animals and humans, pollution management and combatting antimicrobial resistance (AMR).

AMR has been declared as one of the top 10 global public health threats facing humanity. AMR occurs when bacteria, viruses, fungi and parasites change over time and no longer respond to medicines. As a result, medicines become ineffective, and infections become increasingly difficult or impossible to treat. By some estimates, AMR may cause more deaths than cancer by 2050.

Genomics provides a rapid, reliable, and cost-effective solutions as a cross-cutting technology that works across the shared environments of people, animals and plants. Genomics technologies can help with the prevention of disease outbreaks in animals and people, understanding the prevalence and impact of antibiotic-resistant genes in the environment to target appropriate use of antibiotics, and monitoring spread of global pathogens.

## From Approach to Action in One Health

**In collaboration with Results Driven Agriculture Research (RDAR), Genome Alberta facilitated the Accelerating Agriculture Innovation One Health Solutions initiative to address the priority issues of Chronic Wasting Disease, Feral Pigs, African Swine Fever, Antimicrobial Resistance (AMR), and Highly Pathogenic Avian Influenza (HPAI) in Livestock through a One Health approach.**

$3.3M was invested to support projects that use genomic-enabled technologies and offer collaborative, effective and cost-efficient solutions to One Health challenges that benefit Alberta producers including:

- Designing omics-informed vaccines and live tests for chronic wasting disease management
- Developing an antimicrobial resistance surveillance program for bulk tank milk
- Using metabolic modeling to create competitive exclusion communities that control poultry pathogens and antimicrobial resistance
- Developing an alternative Streptococcus zooepidemicus vaccine to reduce antimicrobial usage and mortality for pigs
- Improving traceability of free-ranging and domestic wild boar in Alberta and the Canadian prairies
- Developing a bacterial probiotic to enhance respiratory health of cattle and reduce feedlot antimicrobial use and resistance

## Project Spotlight

### Liver abscesses and bovine respiratory disease (BRD) cause the greatest disease associated economic losses in the Canadian Beef Industry, estimated at ~$61m annually.

These conditions are mainly caused by certain bacteria in the gut and respiratory tract of the animals. The current treatments are in-feed or injectable antimicrobials that have limited efficacy against these strains of bacteria. In addition, the rise of antimicrobial resistance (AMR) may account for the limited efficacy of current treatments making it more important for researchers to improve their understanding of how the microbiome interactions are impacting their beef cattle hosts.

An Alberta research team has been using “omic” technologies to better understand the interactions between the disease-causing organisms and their beef cattle hosts. Some of their important findings include:

- Generation of new and unique data sets through sequencing of bacteria from liver abscesses, cattle liver tissue, and analyzing candidate genes and regulatory pathways linked to abscess formation.
- Characterization of microbiome composition, AMR genes, and pathogen prevalence to better understand how antimicrobial use impacts these communities and the resistance patterns developed.
- A comprehensive understanding of microbial and host interactions in liver abscess development including the potential for tracking changes in the animal’s blood as an early predictive biomarker for liver abscess formation.

These research finding will help inform future disease prevention strategies that reduce reliance on antimicrobials while improving cattle health and productivity.

**Visit genomealberta.ca/project-portfolio for more information on our Agricultural projects.**

# Genomics at work in the ENVIRONMENT SECTOR

## Enhancing Environmental Stewardship and Natural Resource Management

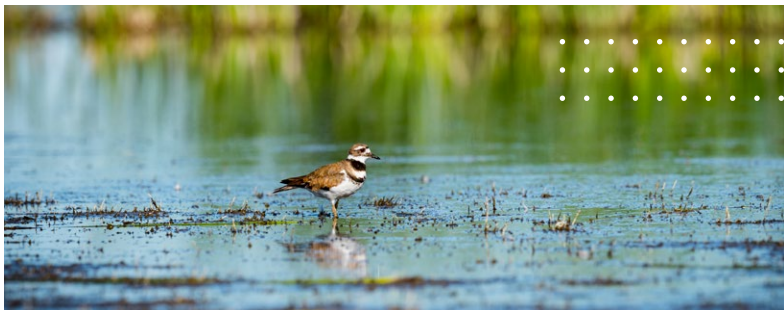
**Two Alberta research teams kicked off new projects, with a value of over $1.6M, to advance environmental DNA tool development and refinement to expand their utility and application in our province.**

### Tailgate eDNA sequencing for near-real-time biodiversity monitoring

To support effective decision-making for ecosystem protection and management, this project is advancing eDNA technology from the lab to the field. Using portable tools, the team is developing and validating a "tailgate" protocol for real-time eDNA analysis. This approach offers a faster, more cost-effective method allowing field crews to access data sooner and adapt sampling approaches for understanding species at risk or managing spread and impact of invasive species in a cost-effective way.

**HIGHLIGHTS:**

- Collaborative approach with the Alberta Biodiversity Monitoring Institute, Ducks Unlimited and Innotech Alberta.
- Leverage existing field programs to validate the methodology and ensure it provides evidence-backed, high-quality data.
- Developing standard operating protocols (SOPs) and user-friendly software tools for wider application with minimal training.
- Expanding capacity for application in Alberta through public engagement materials, technical reports, and workshops.



### Transforming Wastewater-Based Surveillance to an Actionable Public Health Tool for Managing and Mitigating Infections Across a Range of Scales

Wastewater-based surveillance (WBS) combines science, engineering, and genomics to monitor population health by detecting infectious diseases and antimicrobial-resistant (AMR) organisms. By analyzing environmental DNA (eDNA) in wastewater, this approach provides objective, inclusive, real-time data to identify emerging health threats and track community-level trends. These tools will be shared with government, public health, and research partners to strengthen Alberta's preparedness and response capacity.

**HIGHLIGHTS:**

- Expands Alberta's established WBS network.
- Focuses on eDNA indicators linked to AMR and pathogens responsible for recent outbreaks, with flexibility to adapt to new threats.
- Integrates clinical and environmental data to develop a validated model for tracking infectious diseases.
- Demonstrate WBS as a scalable, cost-effective tool for early detection, containment, and mitigation of public health risks.

## What is eDNA?

### Environmental DNA (eDNA) is genetic material left behind by living organisms in soil, water, snow, or air.

By matching these DNA fragments to reference databases (like fingerprints), scientists can identify which species are present and learn about ecosystem health, biodiversity, and environmental change.

eDNA provides a faster, more sensitive, and non-invasive way to assess ecosystems compared to traditional data collection methods. It helps detect invasive species, monitor biodiversity, guide responsible development, and strengthen confidence in environmental assessments.

## Who can use eDNA?

**Wildlife and Conservation Agencies** – Monitor endangered, rare, or invasive species without disturbing habitats.

**Energy and Mining Industries** – Detect microbes linked to minerals, metals, or hydrocarbons, guiding sustainable exploration and reclamation.

**Forestry Companies** – Advance biodiversity mapping, ecological monitoring, track pest species, and monitor health and resilience of forest ecosystems.

**Environmental Regulators** – Strengthen environmental impact assessments and track ecosystem changes in real time.

**Fisheries and Aquaculture** – Track fish populations, monitor ecosystem health, and detect early signs of disease.

**Public Health and Agriculture** – Identify pathogens in water or soil, providing early warning systems for zoonotic or crop-related diseases.

**Visit genomealberta.ca/project-portfolio for more information on our environment projects.**

## Photo highlights from our

# 20TH ANNIVERSARY CELEBRATION EVENT

# GENOME ALBERTA FINANCIAL STATEMENTS

## FOR THE YEAR ENDED MARCH 31, 2025

And Independent Auditor's Report thereon

**GENOME ALBERTA**

# FINANCIAL STATEMENTS
# FOR THE YEAR ENDED MARCH 31, 2025

## Table of Contents

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# INDEPENDENT AUDITOR'S REPORT

To the Board of Directors of Genome Alberta

## Opinion

We have audited the financial statements of Genome Alberta (the "Entity"), which comprise:

- the statement of financial position as at March 31, 2025;
- the statement of operations and changes in net assets for the year then ended;
- the statement of cash flows for the year then ended;
- and notes to the financial statements, including a summary of significant accounting policies;

(hereinafter referred to as the "financial statements").

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Entity as at March 31, 2025, and its results of operations and its cash flows year then ended in accordance with Canadian accounting standards for not-for-profit organizations.

## Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the "Auditor's Responsibilities for the Audit of the Financial Statements" section of our auditor's report.

We are independent of the Entity in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

KPMG LLP, an Ontario limited liability partnership and member firm of the KPMG global organization of independent member firms affiliated with KPMG International Limited, a private English company limited by guarantee. KPMG Canada provides services to KPMG LLP.

## Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian accounting standards for not-for-profit organizations, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Entity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Entity or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Entity's financial reporting process.

## Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit.

We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.

  The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Entity's to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Chartered Professional Accountants

Calgary, Canada

June 27, 2025

## GENOME ALBERTA

# STATEMENT OF FINANCIAL POSITION

| | As at March 31, 2025 | As at March 31, 2024 |
|---|---|---|
| | $ | $ |
| **CURRENT ASSETS** | | |
| Cash | 17,689,125 | 6,714,056 |
| Funding receivable | 427,847 | 397,566 |
| GST receivable | 25,678 | 11,260 |
| Prepaid expenses | 28,086 | 52,366 |
| Project advances | 2,123,426 | 2,654,009 |
| | 20,294,16 | 9,829,257 |
| **RESTRICTED INVESTMENT** (Note 3) | 70,000 | 70,000 |
| **PROPERTY & EQUIPMENT** (Note 4) | 32,935 | 43,818 |
| | **20,397,097** | **9,943,075** |
| **LIABILITIES** | | |
| **CURRENT LIABILITIES** | | |
| Accounts payable and accrued liabilities | 1,143,072 | 1,103,809 |
| **DEFERRED CONTRIBUTIONS** (Note 6) | 19,221,090 | 8,795,448 |
| **DEFERRED CONTRIBUTIONS RELATED TO PROPERTY & EQUIPMENT** (Note 6) | 32,935 | 43,818 |
| | **20,397,097** | **9,943,075** |

**Commitments** (Note 9)

The accompanying notes are an integral part of these financial statements.

Approved by the Board:

Michael Lohuis - Chair, Audit Committee

Oryssia Lennie - Chair, Board of Directors

## GENOME ALBERTA

# STATEMENT OF OPERATIONS AND CHANGES IN NET ASSETS

| | Year Ended March 31, 2025 | Year Ended March 31, 2024 |
|---|---|---|
| | $ | $ |
| **REVENUES** | | |
| Recognition of deferred contributions (Note 6) | 11,331,853 | 11,325,805 |
| Amortization of deferred contributions related to capital assets (Note 6) | 20,056 | 16,719 |
| | 11,351,909 | 11,342,524 |
| **EXPENSES** | | |
| Research project expenditures (Note 7) | 8,660,917 | 8,977,051 |
| Project development and management (Note 5) | 2,453,979 | 2,190,801 |
| Communications and public outreach | 180,969 | 134,221 |
| External committees (Note 5) | 35,988 | 23,732 |
| Amortization of property and equipment | 20,056 | 16,719 |
| Total Operating Costs | 11,351,909 | 11,342,524 |
| **Excess of revenues over expenses and net assets - beginning and end of year** | - | - |

The accompanying notes are an integral part of these financial statements.

## GENOME ALBERTA

# STATEMENT OF CASH FLOWS

| | Year Ended March 31, 2025 | Year Ended March 31, 2024 |
|---|---|---|
| | $ | $ |
| Cash provided by: | | |
| **Operating Activities** | | |
| Excess of revenues over expenses | - | - |
| Items not involving cash: | | |
| Recognition of deferred contributions | (11,351,909) | (11,342,524) |
| Amortization of capital assets | 20,056 | 16,719 |
| Contributions received in year (Note 6) | 21,540,194 | 8,932,229 |
| Interest Income (Note 6) | 226,474 | 324,855 |
| | 10,434,815 | (2,068,721) |
| **Change in non-cash working capital:** | | |
| (Increase) decrease in funding receivable | (30,281) | 186,676 |
| (Increase) in GST receivable | (14,418) | (851) |
| (Increase) in prepaid expenses | 24,280 | (18,200) |
| (Increase) decrease in project advances | 530,583 | (24,319) |
| Increase (decrease) in accounts payable and accrued liabilities | 39,263 | 345,339 |
| **Net cash operating activities** | 10,984,242 | (1,580,076) |
| **Investing Activities** | | |
| Purchase of property & equipment | (9,173) | (41,628) |
| **Net cash used in operating activities** | (9,173) | (41,628) |
| **Increase (decrease) in cash** | 10,975,069 | (1,621,704) |
| **Cash, beginning of year** | 6,714,056 | 8,335,759 |
| **Cash, end of year** | 17,689,125 | 6,714,056 |

The accompanying notes are an integral part of these financial statements.

## GENOME ALBERTA

# NOTES TO FINANCIAL STATEMENTS

## For the Year Ended March 31, 2025

### 1. Purpose of Organization

Genome Alberta (the "Corporation") was incorporated in 2005 under the Canada Corporation Act as a Not-for-profit Corporation and was continued in 2014 under the Canada Not-for-profit Corporations Act. Genome Alberta is exempt from income and capital taxes. The Corporation has the following objectives:

a) Develop and establish a coordinated strategy for genomics research to enable Canada to become a world leader in a few selected areas such as health, agriculture, environment, forestry and energy;

b) Provide leading-edge technology to researchers in all genomics-related fields in Alberta;

c) Support large-scale projects of strategic importance to Alberta and Canada, by bringing together industry, government, universities, research hospitals and the public;

d) Ensuring leadership in the area of social, environmental, ethical and legal issues related to genomics by organizing intellectual resources and to effectively communicate genomics to the public, helping Albertans and Canadians understand the relative risks and rewards of genomics; and

e) Encouraging investment by other organizations to fund genomics research.

### 2. Significant Accounting Policies

These financial statements are prepared in accordance with Canadian accounting standards for not-for-profit organizations ("ASNPO") in Part III of the Chartered Professional Accountants ("CPA") Handbook and include the following significant accounting policies:

#### a) Cash

Cash consists of cash on hand and account balances with the Corporation's bank.

#### b) Funding Receivable

Funding Receivable represents amounts that are payable to the Corporation within the next fiscal year.

In the course of its ongoing operations, the Corporation receives funding from government bodies under terms and conditions as specified by the associated funding contracts. Certain contracts require specific deliverables to be performed by the Corporation before such funding becomes receivable. Consistent with such terms and conditions, the Corporation therefore records the associated funding receivable only when the underlying deliverables have been approved by the funder and the funding is therefore available to the Corporation.

#### c) Revenue Recognition

The Corporation follows the deferral method of accounting for contributions which includes funding from Genome Canada, provincial ministries, the commercial sector and other funding sources.

Contributions received for property and equipment expenditures are deferred and recognized as revenue as the related property and equipment are amortized.

**2. Significant Accounting Policies (continued)**

**c) Revenue Recognition (continued)**

Externally restricted contributions are recognized as revenue in the year in which the related expenses are incurred.

Investment income is recognized in deferred contributions as received. The Corporation does not receive unrestricted contributions.

**d) Property & Equipment**

Property and equipment are recorded at cost. Amortization is recorded using a straight-line basis over their estimated useful lives at the following rates:

| | |
|---|---|
| Furniture and equipment | 5 years |
| Computer equipment | 3 years |

**e) Use of Estimates**

The preparation of financial statements in conformity with ASNPO requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of assets and liabilities at the dates of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant item subject to such estimates and assumptions is Contribution Receivable from Genome Canada. Actual results could differ from those estimates.

**f) Financial Instruments**

Financial instruments are recorded at fair value on initial recognition. Freestanding derivative instruments that are not in a qualifying hedging relationship and equity instruments that are quoted in an active market are subsequently recorded at fair value. All other financial instruments are recorded at cost or amortized cost, unless management has elected to record at fair value.

Transaction costs related to financial instruments measured at fair value are expensed as incurred. For all other financial instruments, the transaction costs are added to the carrying value of the asset or netted against the carrying value of the liability and are then recognized over the expected life of the instrument using the straight-line method. Any premium or discount related to an instrument measured at amortized cost is amortized over the expected life of the item using the straight-line method and recognized in the statement of operations.

With respect to financial assets measured at cost or amortized cost, the Corporation recognizes in the statement of operations an impairment loss, if any, when it determines that a significant adverse change has occurred during the period in the expected timing or amount of future cash flows. If an asset that was previously written down becomes less impaired and the recovery in value relates to an event occurring subsequent to the impairment write-down, the asset can be written back up, but only to the extent of the original impairment adjustment. This reversal of the previously recorded impairment loss is recorded in the statement of revenues and expenses in the period the reversal occurs.

**2. Significant Accounting Policies (continued)**

**g) Related Party Transactions**

Monetary related party transactions and non-monetary related party transactions that have commercial substance are measured at the exchange amount when they are in the normal course of business, except when the transaction is an exchange of a product or property held for sale in the normal course of operations. Where the transaction is not in the normal course of operations, it is measured at the exchange amount when there is a substantive change in the ownership of the item transferred and there is independent evidence of the exchange amount.

All other related party transactions are measured at the carrying amount.

**3. Restricted Investment**

The amount recorded as a restricted investment is a security deposit of $70,000 held by the Bank of Montreal that matches the limit on the Corporation's credit card facility. The amount is held in a Guaranteed Investment Certificate, which earns interest at 2.75% and matures on March 12, 2026. Upon maturity, the amount automatically rolls over into a new one-year term unless otherwise instructed.

**4. Property and Equipment**

| | | | March 31, 2025 | March 31, 2024 |
|---|---|---|---|---|
| | COST | ACCUMULATED DEPRECIATION | NET BOOK VALUE | NET BOOK VALUE |
| | $ | $ | $ | $ |
| Furniture and office equipment | 33,503 | 21,091 | 12,412 | 16,552 |
| Computer equipment | 69,200 | 48,677 | 20,523 | 27,267 |
| | 102,703 | 69,768 | 32,935 | 43,819 |

**5. Related Party Transactions**

During the year, Genome Alberta has paid $22,622 (2024 - $12,495) relating to expenses incurred by key executives and directors on behalf of the Corporation incurred in the normal course of operations and are measured at the exchange amount, which is the amount of consideration established and agreed to by the related parties. These expenses are included in project development and management, and external committees expenses on the statement of operations.

### 6. Deferred Contributions

Deferred Contributions represent unspent externally restricted funding and related investment income, which are for the purposes of providing funding to approved projects and for corporate operations in future years.

| | March 31, 2025 | March 31, 2024 |
|---|---|---|
| | $ | $ |
| Opening balance | 8,795,448 | 10,905,796 |
| **Contributions for the period:** | | |
| Genome Canada | 9,353,085 | 7,762,724 |
| Alberta Ministry of Technology and Innovation | 11,450,000 | - |
| Alberta Advanced Education | | 1,000,000 |
| Alberta Innovates | 415,000 | 5,000 |
| Results Driven Agriculture Research (RDAR) | 92,226 | 205,000 |
| Other | 229,883 | 93,943 |
| Closed projects: Unspent funds returned to Funders | - | (134,438) |
| | 21,540,194 | 8,932,229 |
| Investment Income | 226,474 | 324,855 |
| | 21,766,668 | 9,257,084 |
| Total opening balance, contributions and interest: | 30,562,116 | 20,162,880 |
| Amounts recognized in revenue | (11,331,853) | (11,325,805) |
| Transfer to deferred contributions - property & equipment | (9,173) | (41,627) |
| Closing balance | 19,221,090 | 8,795,448 |

**Deferred contributions have been externally restricted for the following purposes:**

| | March 31, 2025 | March 31, 2024 |
|---|---|---|
| Project expenses | 12,005,087 | 5,422,885 |
| Administration and other costs | 7,216,003 | 3,372,563 |
| | 19,221,090 | 8,795,448 |

**Changes in Deferred Contributions reported for Property and Equipment:**

| | March 31, 2025 | March 31, 2024 |
|---|---|---|
| Opening balance | 43,818 | 18,909 |
| Transferred from deferred contributions | 9,173 | 41,627 |
| Amounts recognized in revenue | (20,056) | (16,719) |
| Closing balance | 32,935 | 43,818 |

### 7. Research Project Expenditures

As part of its strategic role in the support of genomic research, the Corporation provides scientific, financial and administrative support to a variety of genomic research projects under the auspices of funding and management agreements with third party institutions. Each project operates under an approved budget and scope, and provides the Corporation with regular reports describing the scientific progress against agreed milestones and of financial performance against budget.

Funding has been received or is receivable from Genome Canada and the agencies of the Alberta Government, either individually or jointly, to support the following projects and programs:

| | |
|---|---|
| Reducing the Global Burden of Infectious Diseases Through Precision Population Health | LPIM |
| Integrating genomic approaches to improve diary cattle resilience: A comprehensive goal to enhance the Canadian dairy industry | L18DCR |
| TRIA-FoR: Transformative Risk Assessment and Forest Resilience Using Genomic Tools for the Mountain Pine Beetle Outbreak | L20TF |
| Application of Genomics to Enhance Wetland Treatment Systems for Remediation of Processed Water in Northern Environments | L20WT |
| Genomic Assets (Antimicrobial Stewardship systems from Evidence-based Treatment Strategies) for Livestock | L18GAL |
| Transcriptional and Epigenetic Events underpinning Navacim-induced TR1 Cell formation and expansion | GAP22S |
| Bionet Alberta | BioNet |
| An “omics” approach to the characterization of the microactome and identification of new therapeutic targets for the prevention of liver abscesses and bovine respiratory disease in feedlot cattle | MGLA |
| Understanding the Role of Genomics in Fostering and Supporting Arctic Biodiversity | GSAB |
| Glyconet Integrated Services | GIS |
| Childhood Asthma and the Microbiome - Precision Health for Life: The Canadian Healthy Infant Longitudinal Development (CHILD) Study | LCAM |
| Validation and integration of genomics solutions for offshore oil exploration in Nova Scotia and beyond | GAPH2 |
| Combining Omic Technology and Grassland Management to Enhance Soil Carbon Sequestration and Reduce Greenhouse Gas Emissions | C22GRS |
| Developing Climate-Resilient, Low Carbon Footprint Field Peas as a Preferred Rotation Crop Through the Inter-Disciplinary Integration of Genomic Technologies | C22PEA |
| The Canadian BioGenome Project | L20CB |
| CanPREVENT AMR: Applying Precision Medicine Technologies in Canada to Prevent Antibody Mediated Rejection and Premature Kidney Transplant Loss | LKCP |
| TIGER: Translational Implementation of Genomics for Rare Disease | GAP16B |
| Application of Genomics-based Tools to Select for Pig Disease Resilience | GAP17D |
| Metabolics Innovation Centre | MC5 |
| UCAN CURE: Precision Decisions for Childhood Arthritis | LPCA |

**7. Research Project Expenditures (con't)**

| | |
|---|---|
| Summer internship for Indigenous peoples in Genomics (SING) | SING22 |
| Genomic Testing of Wastewater to Promote Public Health and Safeguard Economic Performance | GAP21H |
| Pegasus 2: Personalized Genomics for Prenatal Abnormalities Screening Using Maternal Blood Towards First Tier Screening and Beyond | LRP2 |
| Advanced Education Placement Program | ADV ED |
| Taking Stock and moving forward: Synthesizing Ethnic/Racial diversity in Canadian Genomics | KSGO3Z |

Project advances are comprised of amounts provided by the Corporation to approved research projects and the Science Technology and Innovation Centre which have not yet been spent. Amounts not spent upon completion of the project are recoverable by the Corporation.

**8. Financial Instruments**

(a) Liquidity risk:

The Corporation's objective is to have sufficient liquidity to meet its liabilities when due. The Corporation monitors its cash balances and cash flows generated from operations to meet its requirements.

(b) Credit risk:

The Corporation is exposed to credit risk as it relates to cash and receivables. Cash is held with Canadian financial institutions, and accounts receivable is due from reputable funders and donors with no history of non-payment.

It is management's opinion that the Corporation is not exposed to significant interest rate, currency or market risks arising from these financial instruments.

There has been no significant change to the risk profile when compared to prior year.

**9. Commitments**

Genome Alberta has entered into 2 lease agreements for office equipment that will expire on July 31, 2027 and May 18, 2028. The Corporation has also entered into a lease agreement for office space that will expire on May 31, 2026. The obligation for these leases over the current and next fiscal years is as follows:

| | |
|---|---|
| 2026 | $71,934 |
| 2027 | $16,051 |
| 2028 | $2,290 |

# OUR TEAM

## Board of Directors

**ORYSSIA LENNIE,** Chair

**GEOFF PRADELLA ,** Vice-Chair

**DONALD NKRUMAH**

**DONNA HILDEBRANT**

**FRED WRONA**

**GORDON GILES**

**HILARY ROSE**

**JASON KRIPS**

**JAY CROSS**

**MICHAEL LOHUIS**

## Management

**DAVID BAILEY**
President & CEO

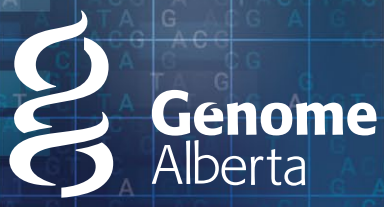
**GIJS VAN ROOIJEN**
Chief Scientific Officer

**MATT BRYMAN**
Chief Operating Officer

**ERIN TESSIER**
Director of Communications and Partnerships

**JEREMY WILDE**
Controller

**MITTHUA SARKAR-BANKS**
Director, People and Culture

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