



GenomeCanada

Genome Canada Leaders' Roundtable Series on the Future of Genomics in Canada

Pre-event briefing note for Roundtable 1

The Genomics Research and Innovation Ecosystem: Strategizing the Future

A VIRTUAL MEETING ON SEPT. 23, 2021, AT 2:30-4:00 PM EDT

INTRODUCTION

For 20 years, Genome Canada has invested in building Canada's genomics capacity across sectors through applied research and innovation partnerships. As we look to the next 20 years, Genome Canada is convening a series of three virtual roundtables with Canada's genomics research community, global experts and key partners in the national genomics ecosystem. These roundtables are designed to help identify future opportunities and challenges for Canadian genomics, and to inform Genome Canada's strategic direction and a new mission-driven approach to delivering greater impact.

The first of these three roundtables will focus on how national research and innovation strategies and ecosystems support innovation and impact, with a focus on how genomics and associated areas can contribute to major challenges. Following sessions will cover Canada's specific genomics strengths, areas of future focus and mechanisms required to deliver on potential impacts for Canada and globally.

CONTEXT

We are in the early days of a [Bio Revolution](#), where advanced biosciences and biotechnology will fundamentally transform our lives. Driven by the confluence of genomics, big data, artificial intelligence (AI), gene editing and synthetic biology, we have an unparalleled opportunity to deliver homegrown biological solutions to complex problems, drive economic growth and position Canada for global market leadership in key areas of strength and—most fundamentally—protect and improve Canadians' lives.

To harness this transformative potential, Genome Canada is moving to a mission-driven approach to address major challenges where genomics can make a real difference and ensure that promising concepts can be taken through the research and innovation ecosystem to deliver equitable impacts that benefit communities across the country.

Strengthening Canada's innovation ecosystem for greater impact on value creation, economic growth and jobs—through greater policy coherence and coordination, optimizing

synergies among federal ecosystem actors and better connecting upstream investments in fundamental research with downstream impacts on commercialization and intellectual property (IP) generation for national benefit—has been a major focus of federal innovation policy and investments over the last several years.

Budget 2021 doubled down on this goal, supporting key innovative sectors to drive pandemic resilience and economic growth, announcing major investments in the **biosciences and biomanufacturing** as well as in AI, quantum and genomics via the development of a new **\$400 million Pan-Canadian Genomics Strategy** (PCGS) over six years, including \$136.7 million towards Genome Canada’s mission-driven programming.

FRAMING

This roundtable provides an opportunity for stakeholders from across the genomics ecosystem—research, innovation, business, policy and other relevant stakeholders—to bring their expertise and insight to Genome Canada’s mission strategy and a shared platform on a future for genomics in Canada.

Research and innovation systems in Canada require shared priorities across public and private investments and, ideally, reflect a federal-provincial-territorial approach to decision-making, investment, regulation and business policy (such as trade, taxation and IP). They also live in the reality of proximity to the world’s largest research and innovation ecosystem in the U.S. and the effects that has on Canadian activities, from researcher brain drain, to IP retention, to company development and product marketing.

Innovation ecosystems consist of economic agents and relations, as well as non-economic components such as technology, institutions, sociological interactions and culture, which facilitate idea-making, innovation and the diffusion of innovations. Successful innovation ecosystems require a focus on resources, governance, strategy and leadership, organizational culture, human resources management, people, partners, technology and clustering.

In this first roundtable, we will discuss how the challenges and opportunities within the Canadian context align with the components and focus of a successful research and innovation ecosystem. This includes a focus on ‘**directionality**’ to meet agreed societal, national and global challenges—for example, through mission-driven research and innovation.

To frame the discussion, the roundtable will feature a keynote from **Ms. Anne Kjersti Fahlvik**, Executive Director of Business Development and Innovation at the Research Council of Norway (RCN). The RCN is the national funding agency for research and innovation in Norway, and has recently rethought its **approach to connecting research and innovation** to deliver high impacts across five strategic areas (health and welfare; oceans; green transition; technology and digitalization; and cohesion and globalization). These areas are specifically linked to societal challenges for Norway (and beyond) and have been identified to help the country be better prepared for the future. Within these five areas, the RCN has identified 20 missions that are achievable with effective connections across the research and innovation sectors. This approach can serve as an example to

Canada as we look to drive genomics-enabled missions and build a Pan-Canadian Genomics Strategy.

QUESTIONS

The roundtable sessions seek to produce generative insights that will help shape Genome Canada's mission-based strategy and inform broader thinking including the Pan-Canadian Genomics Strategy. To deliver on this goal, roundtable participants are asked to consider the following questions:

- How can Canada incorporate specific learning from other national research and innovation strategies, and what are the lessons for a mission-driven strategy around genomics? What are our strengths, and where are there gaps?
- How can we ensure we both strengthen Canada's global standing and competitive advantage and deliver on societal and economic impacts for complex problems?
- How can a national research and innovation strategy ensure it meets the needs of all communities and delivers on equity, diversity, inclusion and Indigenous engagement imperatives?

KEY DOCUMENTS

For those interested in further information on the topics identified above, the following provide useful primers to the subject area.

- McKinsey Global Institute, 2020, [*The Bio Revolution: Innovations transforming economies, societies, and our lives*](#)
- Business Council of Canada, 2020, [*Powering a strong recovery: an economic growth plan for Canada*](#)
- Mariana Mazzucato, 2018, [*Mission-Oriented Research & Innovation in the European Union: A problem-solving approach to fuel innovation-led growth*](#)
RAND Europe, 2021, [*Tackling societal challenges and guiding the future of research and innovation in Norway*](#)