Genome Canada Data Release and Sharing Policies

Genome Canada is strongly committed to the principle of rapid sharing of the outputs of Genome Canada-funded research including open access to publications, release of data and sharing of unique resources to the scientific community. By providing the broader scientific community with timely access to the outputs of Genome Canada-funded projects, it is anticipated that these data release and sharing policies will accelerate the translation of research for the benefit of Canada and the wider global community.

This document consolidates and updates the three existing policies. The Intellectual Property Policy was adopted by Genome Canada's Board of Directors on September 22, 2000. The Data Release and Resource Sharing Policy was originally established by Genome Canada's Science and Industry Advisory Committee and approved by the Board on June 17, 2005. The revised policy was approved by Genome Canada's Board of Directors on September 18, 2008. The Policy on Access to Research Publications was also approved by the Board on September 18, 2008.

The revised policies were developed by a Data Sharing Policies Advisory Committee (see membership in Attachment 1) and approved by Genome Canada's Board of Directors on September 22, 2016 for application to all projects approved and funded by Genome Canada after January 1, 2017.

This document describes three linked Genome Canada policies:

1. Data Release and Resource Sharing
2. Access to Research Publications
3. Intellectual Property

Each project team approved for Genome Canada funding must make a commitment to comply with these policies as a condition of funding. Project Leaders and their Institutions are responsible for ensuring compliance with these policies. Genome Canada and Genome Centre staff will monitor adherence to these policies by funded researchers through a variety of mechanisms including Research Oversight Committees.

Genome Canada supports a variety of programs across the spectrum from discovery to translation and does so in partnership with many different organizations. In circumstances where the details of one or more of the following policies does not apply to a particular program, it will be made clear in the Request for Applications.

In rare cases, Genome Canada may approve an exemption from a particular section of a policy where there are extenuating circumstances that justify the exemption. In these cases the applicants must explain the situation in the application form and this will be evaluated by the review committee. For funded projects, the project team must make a request for an exemption through the Genome Centre for approval by Genome Canada. Genome Canada may call on the advice of Research Oversight Committees or other experts, as appropriate, to assist in making a decision.

1. Data Release and Resource Sharing Policy

Genome Canada funded projects must share data and resources in a timely fashion with no restrictions. There may be exceptions in cases where research is focused on clinical data or industry applications and releasing data is an issue for users. Where the goal of the project is to produce data or resources for the wider scientific community the project must follow the data release and resource sharing principles of a "Community Resource Project", defined as "a research project specifically devised and implemented to create a set of data, reagents or other material whose primary utility will be as a resource for the broad scientific community." This definition and the associated data release and resource sharing principles were developed at a meeting held in January 2003 in Fort Lauderdale[1] and subsequently at a meeting held in Toronto in May 2009[2]. Genome Canada encourages rapid prepublication data release and requires data availability at the time data is referenced in a publication.

Genome Canada recognizes publication as a vehicle for data release and, at a minimum, expects data to be released and shared no later than the original publication date of the main findings from any datasets generated by that project. For large datasets that are collected over several discrete time periods or phases, it is reasonable to expect that the data be released in phases as they become available or as the main findings from a research phase are published. However, at the conclusion of a project, all data must be released without restriction.

Approved Genome Canada projects must also address the sharing of resources generated by the projects such as unique biological specimens and computer programs designed to analyze datasets. For example, biological reagents such as unique strains should be deposited with repositories such as ATCC. Source codes for computer programs designed to analyze large

[1] https://icgc.org/files/daco/WT_SharingData_FTLauderdale_2003_en.pdf
[2] http://www.ncbi.nlm.nih.gov/pubmed/19741685

datasets should be made available to others through the use of license agreements that adhere to "open source" principles (e.g., http://www.opensource.org/).

For research that involves specimens or data from human participants, it is acceptable to use a controlled access repository, or a similar access strategy, in order to comply with ethical or informed consent requirements. Controlled access generally requires that researchers requesting access to the data complete an access agreement for personal and institutional identification. In the access agreement, the researcher is usually required to describe the purpose of his research and commit to a number of good privacy and security practices for the processing of controlled data including agreeing not to re-identify research participants.

Genome Canada believes that Canada, as part of the wider scientific community, benefits from the practice of rapid sharing of data and resources. In order to ensure that this practice continues and to respect the interests of the data and/or resource generators, Genome Canada expects that users of data and resources will acknowledge the source and abide by any terms and conditions of use.

Genome Canada applicants must provide a Data Release and Resource Sharing Plan as part of their application. Genome Canada and its review committees will review the applicant's proposed data and resource sharing plan to verify that it conforms to the Genome Canada policy and funds will not flow until an acceptable plan has been approved and incorporated into the terms of award. Genome Canada and Genome Centre staff will monitor adherence to this policy by funded researchers through a variety of mechanisms including Research Oversight Committees.

2. Access to Research Publications Policy

Research publications are one important output of the research funded by Genome Canada and free, online access to these publications is paramount. Genome Canada encourages its funded scientists to publish wherever is best for their work and makes the following recommendations:

a. Submit manuscripts to a journal that offers immediate open access or offers open access within six months of publication;
b. Submit manuscripts to a journal that automatically deposits publications in PubMed Central (PMC), or other appropriate repositories, immediately or within six months of the date of publication;

c. If a manuscript is submitted to a journal that does not offer open access itself, the journal must allow self-archiving of the peer-reviewed manuscript in an open access institutional repository within six months of publication or less.

Genome Canada requires that peer reviewed publications that have been supported, in whole or in part, by Genome Canada be made freely accessible online in a central or institutional repository as soon as possible, and, at the latest, six months after the publication date. In the case of projects funded under programs designed in partnership with organizations that have a longer deadline, the deadline will be made clear in the Request for Applications.

Each project team approved for Genome Canada funding must make a commitment to comply with Genome Canada's policy on Access to Research Publications as a condition of funding. This includes the submission of final peer-reviewed manuscripts that arise directly from a Genome Canada-funded project, even if they are not an author or co-author of the paper or if the work is supported by co-funding. Project Leaders and their Institutions should ensure that authors are aware of and comply with this policy.

Where Genome Canada-funded researchers have not complied with this policy, the following sanctions will apply:

- Where non-compliance is identified in an interim Progress Report, the managing Genome Centre may undertake closer monitoring to prevent future non-compliance and may delay advances of funds until all papers comply.
- Where non-compliant papers are identified in a Final Progress Report, the managing Genome Centre will withhold the final payment of the budget until all papers comply.
- Applicants will not be permitted to include any non-compliant publications arising from a Genome Canada-funded project in any application submitted to Genome Canada; such papers will be removed from the application and therefore discounted from consideration of a researcher's track record.

These sanctions apply to all research papers submitted for publication resulting from projects approved and funded by Genome Canada from January 1, 2017 onwards.

Although this policy and these sanctions do not apply to monographs and book chapters, Genome Canada encourages authors of these types of publications to strive for open access as soon as possible.

3. Intellectual Property Policy

Broad access to samples, data and research tools is a prerequisite to scientific advancement and innovation. Different forms of intellectual property may arise from this advancement. The translation of new technology, from discovery to application, can be accomplished through multiple channels including intellectual property. Other translation channels (e.g., open innovation, public domain open science, click-wrap licensing) that lead to the development of products, tools or processes that address public needs without impeding research can also be considered by project participants. The objective of this policy is however limited to setting forth the general principles governing ownership of intellectual property created or acquired as part of projects in which Genome Canada is a funder.

Genome Canada expects project participants to develop patents, licenses and material sharing policies that will promote product development without compromising the continuing availability of new research tools to the scientific community and industry. The Principles and Best Practices for the Licensing of Genetic Inventions Used in Human Health Care described in the 2006 OECD Guidelines for the Licensing of Genetic Inventions (http://www.oecd.org/sti/biotech/36198812.pdf) provide useful guidance on achieving that dual objective. Genome Canada strongly discourages the use of patents that would impede access to genomic or genotype-phenotype data developed with Genome Canada's support.

3.1. OWNERSHIP OF INTELLECTUAL PROPERTY

a. In its dealings with Federal or Provincial government departments or Crown Corporations, private sector companies, universities, research hospitals or any other participants (the "Participants"), Genome Canada shall promote and facilitate product, tool or process development and encourage ownership by such Participants of intellectual property created or acquired as part of projects in which Genome Canada is a funder in accordance with each of the Participants' internal intellectual property policy and Provincial and Federal legislation, if applicable.

b. Without limiting the generality of the foregoing, and as a means of illustration, intellectual property derived from work completed at Genome Canada funded technology platforms shall belong to the researchers on whose behalf the work was completed and/or their institutions, as the case may be, and intellectual property derived from work completed by technology platforms for industrial clients on a fee for service or contractual basis shall be vested in such industrial clients.

3.2. EXPLOITATION OF INTELLECTUAL PROPERTY

a. Participants and Genome Canada shall use their best efforts to ensure intellectual property created or developed by Genome Canada funded projects or a Participant is exploited, including licensing, in a way that maximizes benefits for Canada.

3.3. PROTECTION OF INTELLECTUAL PROPERTY

a. Genome Canada shall require from Participants the implementation of proper mechanisms for the protection of intellectual property in accordance with Provincial and Federal legislation, if applicable, including without limitation the execution of nondisclosure and confidentiality covenants by employees of Participants.

b. Except for intellectual property derived from work done for industrial clients on a fee for service or contractual basis, results of the projects must become readily available and accessible to the public in pursuing the furtherance of scientific knowledge through public communication. Genome Canada encourages the rapid publication and disclosure of results of the projects, while respecting internal intellectual property policies, Provincial and Federal legislation and preferred translational pathway(s) of the Participants. There may be exceptions in cases where research is focused on industry applications and releasing results is an issue for users.

Genome Canada will keep these policies under review and continue to work with other research funders and the research community to promote best practice in this area.

Attachment 1: Genome Canada Data Sharing Policies Advisory Committee Membership

Chair:
Jacques Simard
Professor, Department of Molecular Medicine
Université Laval
Deputy Director, Basic Research
CHU de Québec Research Centre

Theodora Bloom
Executive Editor
The BMJ (formerly the British Medical Journal)

Fiona Brinkman
Professor of Molecular Biology and Biochemistry
Simon Fraser University

Doane Chilcoat
Director, Applied Technology Systems
Pioneer Hi-Bred International, Inc., a DuPont Business

William Crosby
Professor, Molecular biology of Plant Development; Plant Biotechnology
Windsor University

Yann Joly
Research Director, Centre of Genomics and Policies (CGP)
Associate Professor, Faculty of Medicine, Department of Human Genetics and Bioethics Unit
McGill University

Eric Meslin
President and CEO
Council of Canadian Academies

Francis Ouellette
Associate Director and Senior Scientist, Informatics and Bio-computing
Ontario Institute for Cancer Research

Catalina López Correa (Observer)
Vice President, Sector Development and Chief Scientific Officer
Genome British Columbia