

Request for Applications

2017 Disruptive Innovation in Genomics Competition For Phase 1 Projects Advancing to Phase 2

July 26, 2017

1. Overview

The development of new disruptive technologies is fundamental to Genome Canada's ability to deliver on the goals set out in its Strategic Plan and is tightly coupled to the provision of access to leading-edge technologies as it relates to genomics¹. Genome Canada believes that this can be achieved by supporting innovation from conception of an idea leading to transfer of knowledge and technologies from academia to users in ways that will maximize the impact of this initial investment and lead to economic and social benefits for Canada. The Disruptive Innovation in Genomics (DIG) initiative will ensure that true disruptive innovation is captured and transferred to those who have the ability to translate and use it. It is expected that this initiative will attract those who embrace strongly the notion of convergence of technologies from divergent fields.

The first round of this competition was launched in June 2015. As stated in the 2015 Request for Applications (RFA), this second round is intended solely for those Phase 1 projects that were funded in the first round and interested in applying for Phase 2 funding.

2. Objective

The major objective of this RFA is to support the development of **disruptive innovation** in the field of genomics, which for the purpose of this RFA is defined as *a new genomics-based technology or the application of an existing technology from another field, applied to the field of genomics, that is truly transformative in that it has the potential to either displace an existing technology, disrupt an existing market or create a new market. A disruptive innovation offers the capability to do things not previously possible and is not an incremental improvement of an existing technology.*

This round of the program is intended solely for those Phase 1 projects approved for funding in response to the 2015 RFA that are applying for Phase 2 funding. Phase 1 projects were intended to support activities that would prove the feasibility of an "idea" – does this technology work and what can it do? This phase was intended to attract ideas for potential disruptive innovations from either individuals with a need (i.e., users), technology developers or others with great ideas.

Phase 2 projects are intended to support the development of a prototype (process, product and/or method) advancing the "idea".

¹ The term genomics is defined here as the comprehensive study, using high throughput technologies, of the genetic information of a cell or organism and its functions. The definition also includes related disciplines such as bioinformatics, epigenomics, metabolomics, metagenomics, nutrigenomics, pharmacogenomics, proteomics and transcriptomics.

3. Deliverables and Benefits

All applications must describe, with supporting evidence, the potential for the innovation to be disruptive, have impact within the technology space, and eventually social and/or economic benefits for Canada.

For Phase 2 projects there must be clear deliverables that will be realized by the end of the project and a plan which explains the next steps of how the deliverables from the research will be transferred, disseminated, used, and/or applied to realize the benefits. Proposals that make a strong case that those deliverables will/can be subsequently translated into significant benefits within as short a time-frame as possible after the end of the project are particularly encouraged, taking into consideration what is reasonable for different types of innovations. It is expected that the deliverables realized at the end of the project will in time lead to technologies that result in benefits such as, but not limited to, facilitation of scientific research, improved diagnostics, environmental monitoring, enhanced food production or food safety, sustainable energy production, etc. The intention is that true disruptive innovation is captured and transferred to those who have the ability to translate and use it, resulting in social and/or economic benefits for Canada.

4. Funds Available, Term and Co-Funding

- Approximately \$5.5 million will be available to support Phase 2 projects from Genome Canada. Please note that this RFA represents the second round of Phase 2 investment as outlined in the 2015 Disruptive Innovation in Genomics Competition.
- At least two-thirds of the requested funding for eligible costs for each project must be obtained through co-funding from other sources.
- Genome Canada will provide support for projects ranging in total size from \$300,000 to \$3 million. The Genome Canada investment in an individual project cannot exceed more than 1/3 of the total investment in the project by all parties; the remaining 2/3 must be secured through co-funding. (Note that projects with a total size that exceeds \$3 million are possible depending on the level of co-funding, but the Genome Canada contribution will not exceed \$1 million).
- Successful individual projects will be awarded funding for a term of up to three years.

The Genome Centres, working with the applicants, are responsible for securing co-funding. Co-funding for this competition must be for research activities that are an integral part of the Genome Canada approved project and must be for eligible costs specifically requested in the Genome Canada budget form in order to be considered as an eligible co-funding source. See the [Guidelines for Funding](#) for more details.

5. Guidelines for Funding

Genome Canada's [Guidelines for Funding](#) must be adhered to throughout the competition and post-award management processes, except as described in the following section.

5.1. Exceptions to the Guidelines for Funding

Exceptions to the [Guidelines for Funding](#) specific to this RFA include:

- **Project Managers:** A dedicated Project Manager is not required but the engagement of an individual performing this role even part-time could be considered for and is an eligible expense.

6. Application and Review Process

6.1. Registration

A brief Registration form will be used to provide early guidance on which of the 20 ongoing Phase 1 projects are planning to apply for Phase 2 funding and an opportunity for applicants to suggest reviewers. This will facilitate the early selection of reviewers.

6.2. Full Application

Applicants submit a document describing the plans for development of the product, the potential for disruption and eventual plans for uptake by users.

6.3. Review Process

An international panel of experts from a wide range of relevant backgrounds (for example, subject matter experts, venture capitalists, industry business development experts, etc.) will review the applications based on the evaluation criteria in Appendix 1.

Applicants may be invited for an interview, via videoconference, with the Review Committee. After the review committee completes its deliberations and develops an overall ranking list, its recommendations will be provided to the Genome Canada Board of Directors for funding decisions.

Please note, if the application pressure is high, a streamlining process may be used to assist in reducing the number of applications to those deemed to be of the highest merit before proceeding to the Review Committee meeting.

Genome Canada may adjust its evaluation processes where warranted by the number or complexity of proposals received or other relevant factors. Any changes will be rapidly communicated through Genome Canada's website and through the Genome Centres.

7. Competition Timeline

Requests for support of projects must be submitted to Genome Canada through a Genome Centre. The competition timeline outlined below includes both Genome Canada and Genome Centre deadlines. Please contact your regional Genome Centre for further information on their process and internal deadline dates.

<u>Date</u>	<u>Activity</u>
July 26, 2017	Launch of Request for Applications (RFA)
*Contact your regional Genome Centre	Deadline for registrations at Genome Centres *Centre deadline dates will be earlier than Genome Canada deadline
October 26, 2017	Deadline for registrations at Genome Canada
*Contact your regional Genome Centre	Deadline for Full Applications at Genome Centres *Centre deadline dates will be several weeks earlier than Genome Canada deadline
February 15, 2018	Deadline for Full Applications at Genome Canada All applicants notified regarding dates of a <u>potential</u> interview with the International Review Committee
April 2018	Shortlisted applicants notified regarding interviews with reviewers
May 2018	Review Committee meeting, including interviews with applicants
June 2018	Decisions by Genome Canada
Late June 2018	Notification of Decision

8. Contacts

Andy Stone	Genome Atlantic	(902) 421-5645	astone@genomeatlantic.ca
B.F. Francis Ouellette	Génome Québec	(514) 398-0668	francis@genomequebec.com
Robin Harkness	Ontario Genomics	(416) 673-6594	rharkness@OntarioGenomics.ca
Chris Barker	Genome Prairie	(306) 668-3587	cbarker@genomeprairie.ca
Gijs Van Rooijen	Genome Alberta	(403) 503-5230	vanrooijen@genomealberta.ca
Catalina Lopez-Correa	Genome British Columbia	(604) 675-1035	clopez@genomebc.ca

Appendix 1 – Evaluation of Applications

Proposals submitted to Genome Canada are evaluated via a rigorous peer review process to assess their research merit and potential for social and/or economic benefits for Canada, as well as to ensure that sound management and financial practices are implemented

1. Eligibility of the Proposal

To be eligible for this competition, a proposal must:

- respond to the objective of the competition, i.e., to support the development of disruptive innovation in the field of genomics;
- be a Project that was approved for Phase 1 funding and is now applying for Phase 2 funding: a Phase 2 project is intended to support the development of a prototype (process, product and/or method) advancing the “idea” described in Phase 1.;
- provide evidence of secured co-funding (no less than two-thirds of total project costs from eligible co-funders) for eligible costs at the time of release of funds, which includes a third party interested in investing in the development to the next stage (e.g., the investigator’s own company, spin-offs, incubators, etc.).

If considered eligible, the proposal will be reviewed using the criteria described below.

2. Review Criteria

The review criteria fall into three categories:

- 1) Research Proposal
- 2) Benefits
- 3) Management and Finance

2.1. Research Proposal

2.1.1. Research Context

- To what extent will the proposal support the development of transformative ideas with the potential for disruptive innovation?
- To what extent is the research relevant to the users identified?

2.1.2. Research Plans

- How appropriate are the methods and approaches in terms of the research objectives?
- How feasible is the research given the projected resources and time-lines?

2.1.3. Research Expertise

- How appropriate is the expertise of the research team in terms of realizing the research goals?

2.1.4. Research Environment

- How suitable are the available facilities and equipment?

2.2. Social and/or Economic Benefits

2.2.1. Deliverables

- To what extent have the applicants identified appropriate deliverables in terms of the potential for disruptive innovation?
- What is the probability that the deliverables will be realized by the end of the funding period?

2.2.2. Expected Benefits

- How significant are the anticipated benefits and how soon are they anticipated to be achieved after the end of the project?
- How high is the potential to either displace an existing technology, disrupt an existing market or create a new market or offer the capability to do things not previously possible?

2.2.3. Strategy for Realizing Benefits

- How persuasive is the strategy for realizing benefits from the research?
- How well does the plan explain the next steps of how the deliverables from the research will be transferred, disseminated, used, and/or applied to realize the benefits?
- How appropriate is the plan for access to, and dissemination of, the tools and methodologies developed?
- How appropriate are the plans for IP?

2.2.4. Expertise for Realizing Benefits

- To what extent are likely users involved in the project and the strategy to realize benefits?
- If the strategy includes commercialization, to what extent does the team have access to the appropriate technology transfer expertise?

2.3. Management and Finance

2.3.1. Management Plans and Expertise

- How well does the management plan cover project governance, accountabilities of personnel, and processes for decision-making on research direction and strategy for realizing benefits?
- How convincing is the management plan in terms of coordination of current and future partnerships?
- How realistic is the project plan?
- To what extent do the project leaders have experience in managing projects involving research and the application of results?

- How good are the plans to ensure that an adequate number of highly qualified personnel (HQP), both support personnel such as technicians and trainees (e.g., post-doctoral fellows), are available to meet the needs of the proposed research through recruitment and/or training?

2.3.2. Budget and Expenditure Controls

- How reasonable is the proposed budget in terms of the anticipated level of effort and deliverables?
- To what extent are the budget and proposed expenditures well-documented and eligible per the guidelines?
- To what extent does the proposal provide assurance that expenditures from a funded project would be closely and critically monitored?

2.3.3. Financing from Co-Funders

- To what extent is the proposed co-funding plan well-documented, eligible and feasible?
- Does the proposed co-funding directly support the objectives of the project?
- How strong is the likelihood that the project will be able to secure at least 75% of the co-funding for eligible costs at the time of release of funds?