



Guidelines and Evaluation Criteria

Competition for Science and Technology Innovation Centre Operations Support

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GenomeCanada

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1 OBJECTIVES OF GENOME CANADA

Genome Canada's mandate is to develop and implement a national strategy in genomics research for the benefit of all Canadians. It is committed to increasing Canada's position among the world leaders in genomics¹ research in key areas such as health, agriculture, environment, forestry, fisheries and technology development. It is also committed to a leadership role on the ethical, environmental, economic, legal and social aspects and potential implications associated with genomics research (GE³LS), and to communicating with Canadians on these and other issues.

Genome Canada will fulfill its mandate through its five national objectives:

1. The development and establishment of a coordinated national strategy for genomics research to enable Canada to become a world leader in areas such as health, agriculture, environment, forestry and fisheries;
2. The provision of leading-edge technology to researchers in all genomics-related areas through regional Genome Centres across Canada, of which there are currently six, one each in British Columbia, Alberta, the Prairies, Ontario, Quebec, and the Atlantic;
3. The support of large-scale genomics and proteomics research projects of strategic importance to Canada, by bringing together industry, governments, universities, research hospitals and the public;
4. The assumption of leadership in the area of ethical, environmental, economic, legal, social and other issues related to genomics research (GE³LS), and the communication of the relative risks, rewards and successes of genomics research to the Canadian public; and
5. The encouragement of investment by other persons in the field of genomics research.

2 BACKGROUND

Genome Canada funds and manages large-scale, milestone-driven genomics research projects in the areas of health, agriculture, environment, forestry, fisheries, new technology, and GE³LS. Genome Canada also supports leading-edge Science & Technology Innovation Centres (S&T ICs; formerly referred to as S&T Platforms). These S&T ICs provide researchers access to high throughput genomics and proteomics technologies, such as DNA sequencing, RNA expression, protein identification and quantitation, as well as new methods and protocols development, data analysis, and bioinformatics. The S&T ICs also assist researchers in the development of research proposals by providing advice on appropriate technologies and study design that improve the quality of the research.

¹ The term genomics is defined here as the comprehensive study, using high throughput technologies, of the genetic information of a cell or organism, including the function of specific genes, their interactions with each other and the activation and suppression of genes by proteins. For purposes of describing Genome Canada's mandate it also includes related disciplines such as proteomics, metabolomics, transcriptomics, metagenomics and bioinformatics.

Six Genome Centres located across Canada support genomics research at a regional level. They assist applicants in preparing competitive applications, facilitate access to S&T ICs and other service providers, and help applicants with aspects of project development and management. Eligible applicants must submit proposals through a regional Genome Centre and it is the responsibility of the Centre to determine which S&T ICs to put forward to Genome Canada. Once an S&T IC is approved the Genome Centres have the lead in ensuring their effective management and monitoring.

3 REQUEST FOR APPLICATIONS (RFA)

The purpose of this RFA is to solicit applications for operations support for Science and Technology Innovation Centres (S&T ICs) in genomics technologies. This is an open competition with a maximum of \$24 million available for a period of two years (April 1, 2011 to March 31, 2013). Full applications must be submitted to Genome Canada, through a regional Genome Centre, by January 12, 2011 with the decisions of Genome Canada's Board being announced by March 31, 2011.

To ensure that S&T ICs of the highest caliber are funded through this competition, applications will be assessed by an international panel of experts through a rigorous review process. The primary criteria for any S&T IC to receive funding from Genome Canada are:

- Demonstrated demand for services (current and future) from Genome Canada-funded projects, as well as projects funded by other organizations
- Technical ability to deliver the services
- Demonstration of sufficient infrastructure capacity
- Management
- Appropriateness of financial processes

Full evaluation criteria are listed in Appendix B.

There is a need for the S&T ICs to provide leading edge technologies and methods and to ensure there are sufficient resources to manage and analyze the significant amount of data generated by high throughput genomics. To address these needs this competition will allow applicants to request operations support funds for staff who specialize in methods and technology development, information technology and data analysis, such as statisticians and bioinformaticians. The creation of a National Network of S&T ICs, whose mission will be to create a mechanism for the S&T ICs to work together collaboratively, will also help to provide the highest quality genomic technologies and advice to the research community. Individual S&T ICs that are successful in receiving operating funds through this competition will become founding members of the Network. The concept of a National Network of Innovation Centres is currently under development and consultations will be undertaken with current and potential new S&T IC leaders, Genome Centres, and other stakeholders. Terms of reference and details on how the Network will function will be posted on the Genome Canada website and made available through the regional Genome Centres.

4 APPLICATION AND EVALUATION PROCEDURES

4.1 General Instructions

Genome Canada funds can be awarded to researchers affiliated with the following institutions and organizations:

- Canadian post-secondary organizations and their affiliated institutions including hospitals and research institutes
- Canadian non-federal government departments or agencies and not-for-profit organizations (including community or charitable organizations) with an explicit research or knowledge-translation mandate

Eligible applicants (see above) must submit their application through one of the six regional Genome Centres (see Appendix A). Each Centre must ensure that applications satisfy Genome Canada's evaluation criteria as defined in Appendix B.

4.2 S&T Innovation Centre Access Policy

For this competition, S&T IC applicants must comply with Genome Canada's access policy. <http://www.genomecanada.ca/en/portfolio/program.aspx>

4.3 Competition Time Lines

Letters of Intent and full applications must be submitted to Genome Canada through a Genome Centre. The competition timelines are outlined below. Please contact your regional Genome Centre for further information on their process.

June 2010	Launch of competition and release of guidelines
Aug 20, 2010	Deadline for Letter of Intent to Genome Centre
Sept 15, 2010	Deadline for Letter of Intent to Genome Canada
Oct 8, 2010	Eligible applicants invited to apply
Dec 8, 2010	Deadline for Full Application and Budget to Genome Centre
Jan 12, 2011	Deadline for Full Application and Budget to Genome Canada
Late-Feb 2011	Review meeting, including face-to-face with applicants
March 2011	Funding decisions by Genome Canada Board
March 31, 2011	Notice of Award (NOA)

Successful applicants will have three months from the date of the Notice of Award to meet all requirements for the release of funds.

4.4 Letter of Intent (LOI)

A Letter of Intent (LOI) will be used to evaluate the potential S&T ICs for eligibility. Each LOI must be submitted on the form, which will be made available in early June 2010 at <http://www.genomecanada.ca/en/portfolio/research/competition.aspx>. Applicants must submit an LOI by **August 20, 2010** to a Genome Centre. The Genome Centre will work with the applicants to help them develop their final LOI, which will be submitted through the Centre to Genome Canada by **September 15, 2010**. LOIs submitted in the absence of the support of one of the Genome Centres, (i.e., signature of the President & CEO) will NOT be accepted.

The LOIs will be reviewed with the assistance of external experts, as required, against the criteria presented in Appendix B. Only those LOIs that satisfy the evaluation criteria will be invited to submit a full application.

The LOI process will also provide guidance to Genome Canada in the selection of reviewers for the peer review process for full applications. Applicants will be invited to submit the names of potential reviewers who do not currently reside or work in Canada and with whom the applicants have no conflict of interest.

4.5 Application for Funding

An application for funding must be submitted to the Genome Centre by **December 8, 2010** for review prior to its submission to Genome Canada on or before **January 12, 2011**. The application must address the evaluation criteria described in Appendix B and be presented on the *S&T Innovation Centre Operations Support* application and Budget forms, which will be available at <http://www.genomecanada.ca/en/portfolio/research/competition.aspx>.

4.6 Review Process

Each S&T IC proposal will be assessed against the review criteria as outlined in Appendix B. (Demonstrated demand for services, Technical ability to deliver the services, Demonstration of sufficient infrastructure capacity, Management, and Financial criteria).

An International Review Committee composed of members with scientific, management and financial expertise will review the applications submitted for S&T IC operations support. The International Review Committee will meet with and interview representatives from each S&T IC at a face-to-face meeting.

The review committee offers recommendations and advice to Genome Canada on all aspects of applications, including proposed budgets. The Board of Directors makes the final funding decisions. Only those proposals demonstrating the highest degree of overall excellence will be funded. Subsequently, investigators are provided with a written evaluation of the strengths and weaknesses of their application and the Board decision through a Notice of Award. All approved S&T ICs are subject to a Status Report Process to ensure that all applicable conditions are met prior to the release of funds.

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

5 SCIENCE ADVISORY BOARD

All Genome Canada funded S&T ICs must have a Science Advisory Board (SAB) to provide advice and guidance to the team to help ensure that the S&T IC serves the Genome Canada-funded projects as well as the larger scientific community with a high degree of excellence. The membership of the SAB must be completely independent from the S&T IC with no real or perceived conflicts and be composed of experts who will work with the S&T IC to maximize the success of its operations. Guidelines related to the membership, mandate and terms of reference of SABs for Genome Canada-funded S&T ICs is available on the web site at <http://www.genomecanada.ca/medias/PDF/EN/Terms-of-Reference-SAB-platforms-EN.pdf>. Genome Canada will appoint one *ex officio* member of the SAB for each funded S&T IC. Genome Centres may appoint one *ex officio* member to the SAB of each S&T IC in their region.

6 FUNDING

Genome Canada will fund 100% of eligible costs for approved S&T IC operation activities related to providing services to both Genome Canada-funded and non Genome Canada-funded projects.

6.1 Eligible Costs

Eligible costs are defined as reasonable costs for items that directly support the **technology, advice and services** delivered by the S&T IC. Budgets must **NOT** include items for which funding has already been approved from other sources.

Eligible costs may include the following:

- i. Salaries:
 - salaries and benefits for technology team leaders, project/client management personnel, methods and technology development personnel, IT systems administrators, administrative support and data analysts who work on multiple projects, which can include statisticians and bioinformatics experts (note that salaries of researchers or senior management who are currently funded by their respective organizations are **not** considered eligible costs)
 - Genome Canada will accept actual benefit rates as charged by the host institution. For institutional benefit rates higher than 20%, supporting documentation (such as a letter from the institutional human resources department) must be provided
 - annual inflation for salary expenditures in the second and later years of the project at actual rates as charged by the host institution
 - for inflationary increases exceeding 1.5% of total salary and benefits, supporting documentation must be provided
- ii. costs for consumables related to methods and technology development
- iii. costs for general maintenance of equipment used to provide the approved services
- iv. costs for the communications and public outreach activities related to the S&T IC including publication costs such as fees for open access journals
- v. reasonable travel costs (includes travel costs to participate in joint initiatives with other S&T ICs)
- vi. Small equipment items having a value of less than CAN\$50K each and well justified

Examples of **ineligible** costs include the following:

- i. payments to foreign persons, for example investigators' salaries
- ii. indirect costs to the S&T IC, including institutional overhead costs
- iii. rent, renovation or construction of buildings or facilities, and the opportunity cost of using existing infrastructure
- iv. inflation applied to consumables and equipment
- v. equipment having a value of CAN\$50K or more per item must be financed from other sources. In exceptional circumstances and where the equipment cannot be funded by other sources, Genome Canada will consider covering the cost of new equipment

6.2 Cost-recoverable Expenses

The following are not eligible costs for this competition, but are considered cost-recoverable expenses to be charged to the user of the technology services (see access policy for more detail). The list is not exclusive.

- i. Salaries for technicians who operate equipment used to deliver technology services
- ii. Salaries for technicians who perform quality control and quality assurance
- iii. Salaries for data analysts who provide specific project support
- iv. Consumables required to deliver technology services

7 ADMINISTRATION

7.1 S&T Innovation Centre Readiness

Leader(s) of approved S&T ICs must meet through formally submitted documentation, all relevant conditions that may be specified in the Notification of Award (NOA) received from Genome Canada and be in a position to receive Genome Canada funding by June 30, 2011.

Genome Canada reserves the right to withdraw funding for any approved S&T IC that is not ready to receive funding at that time.

7.2 Conditions for Release of Genome Canada Funds

Before funds can be disbursed, several conditions for funding must be satisfied and are detailed below:

- i. A signed agreement between Genome Canada and the lead Genome Centre
- ii. Signed agreement(s) between the Genome Centre, the lead organization, and the applicants. These must clearly demonstrate agreement among the relevant parties, on all significant issues including but not limited to the nature of financial contributions, IP ownership and management, acceptance of the access policy, project management, ethics and biohazard certification, funding term, termination policy, financial and administrative policies, and quarterly financial reporting. The agreements must be in compliance with the agreement between Genome Canada and the lead Genome Centre
- iii. A letter signed by the CEO and legal counsel of the Genome Centre confirming to Genome Canada that: all agreements have been signed and are in compliance with the agreement between Genome Canada and the Genome Centre; all other conditions for release of funds have been met; and funds will flow to the S&T IC upon receipt of funds from Genome Canada;

- iv. A revised budget must be submitted. The budget must address all recommendations of the review panel and any reductions to the budget as approved by the Genome Canada Board
- v. In instances where S&T ICs are responsible for obtaining appropriate certification for research involving human subjects, human stem cells, animals, biohazards, radioactive materials or possible effects on the environment, acknowledgement that certificates are in place must be provided. In order to release funds to an organization, Genome Canada will accept a letter from the appropriate officials at the organization confirming that:
 - a. the organization will ensure that all relevant certifications are obtained in accordance with applicable laws, regulations, standards and guidelines, including but not limited to, the most current versions of the following: Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS); CIHR Guidelines for Human Pluripotent Stem Cell Research; Canadian Council of Animal Care (CCAC) guidelines and policies; Canadian Environmental Assessment Act; Public Health Agency of Canada's Laboratory Biosafety Guidelines; and Canadian Food Inspection Agency Containment Standards for Veterinary Facilities
 - b. the organization will not flow funds to an investigator until all relevant certifications are obtained for the research to be undertaken
 - c. the organization will provide Genome Canada with copies of certifications, upon request
- vi. A commitment to acknowledge the contribution of the Government of Canada through Genome Canada, as well as all other relevant funders, in research publications, as well as all communications including, press releases, posters, oral presentations and marketing materials. In addition, visual presentations such as seminars and websites must include the Genome Canada logo in compliance with Genome Canada's Brand Standards Guide <http://www.genomecanada.ca/en/about/corporate/standards.aspx>
- vii. A publication policy which includes a commitment to comply with Genome Canada's policy on Access to Research Publications <http://www.genomecanada.ca/medias/PDF/EN/AccessResearchPublicationsPolicy.pdf>
- viii. Meet specific conditions or recommendations of the International Review Committee as detailed in the Notice of Award;
- ix. Meet other conditions established by Genome Canada

7.3 Management of Funding

Genome Canada funds for approved S&T ICs will flow through the Genome Centres which manage the funding in accordance with established processes and procedures. Funds will be disbursed to S&T ICs quarterly based on their estimated cash needs. Regular quarterly reports by the S&T ICs will include the reporting of actual expenditures incurred to date and forecast expenditures for subsequent quarters.

7.4 Accountability and Reporting

Funded S&T ICs will submit to the Genome Centre on a regular basis, information and data as prescribed by the Centre in terms of timing, format and content, which will allow for the on-going assessment and monitoring of the performance of the S&T ICs. It is the responsibility of the investigator leading the S&T IC to participate in this process.

7.5 Annual Users Reports

Each S&T IC will be required to submit to its Genome Centre annual reports that include a description of services delivered by the S&T IC to all users. The report will include such

details as the current price of each service offered, the breakdown of the types of users (Genome Canada-funded, non Genome Canada-funded, Canadian academic or industry, foreign academic or industry), the quantity and dollar value of each service provided to each type of user, etc. The complete reporting metrics will be transmitted from Genome Canada to the S&T IC through the Genome Centres.

7.6 Cost Savings and Pricing of Services

S&T ICs must identify cost savings and these must be translated into lower pricing of services to users. Reporting of lower prices must be made to your Genome Centre on a regular basis but no later than once a year. Assessment of efforts to produce costs savings and translation of lower costs to users will be made by the SAB.

Should any additional requirements or restrictions be placed on new funds received for this competition, Genome Canada will ensure that the contracts between Genome Canada and the Genome Centres reflect these conditions and that the guidelines for this competition are modified, where necessary, to allow compliance with them.

Should Genome Canada's policies be revised either during the application process or thereafter, it is the obligation of the S&T IC team to ensure that they are in compliance with the revised policies.

APPENDIX A - CONTACTS

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APPENDIX B - EVALUATION CRITERIA

Applications submitted to Genome Canada will be evaluated using a two-stage process: a Letter of Intent (LOI) and full application.

LETTER OF INTENT EVALUATION CRITERIA

The LOIs will be reviewed by Genome Canada and external experts, as required, against the following criteria:

- A. Provides genomics (as defined in Section 2) technology services
- B. Demonstrated demand for services (current and future) from Genome Canada-funded projects, as well as projects funded by other organizations
- C. Technical ability to deliver the services
- D. Demonstration that sufficient infrastructure is available (e.g., equipment, computers, storage) to provide proposed services.

Only those LOIs that meet the evaluation criteria will be invited to submit full applications.

FULL APPLICATION EVALUATION CRITERIA

The full applications will be evaluated through a rigorous independent peer review process against the criteria below. Excellence and innovation at the very highest of international standards must be demonstrated for funding to be awarded. Note that these descriptors are not all-inclusive.

A Demand for Services

S&T ICs submitted to this competition must demonstrate demand for the services offered, which must include demand from Genome Canada-funded projects, as well as projects funded by other organizations. Requests where demand is insufficient to justify receiving operations support will be denied.

B Technical Ability to Deliver Services

1. Quality of the S&T Innovation Centre

- i. The technical ability to provide each of the technologies offered
- ii. The ability to provide advice in study design and data analysis
- iii. The likelihood that services will be delivered on time and at low/reasonable costs
- iv. The ability of the S&T IC to advance technologies and innovate
- v. Evidence of past cost savings as well as a plan to reduce current costs over time

2. Quality of the S&T Innovation Centre Team

- i. The appropriateness of the applicants' expertise to operate a Science and Technology IC
- ii. The quality of the applicants' recent productivity, track records and their contributions to the field of genomics or proteomics
- iii. Evidence that the S&T IC team is forward looking and innovative

C Demonstration of Sufficient Infrastructure Capacity

- i Applicants must demonstrate that there is sufficient infrastructure capacity to support the S&T IC
- ii Applicants must also disclose all equipment that will be available in the S&T IC and accessible to researchers without restrictions. For equipment that will be partially available detail all access restrictions

D Management Criteria

1. The quality of the management plan, and the administrative/organizational structure:

- i. The composition of the proposed management team, recruitment plan, role of key personnel and committees, frequency of meetings, etc.
- ii. The appropriateness of management team member accountabilities
- iv. The mechanism of communicating within the S&T IC, and with other key stakeholders: collaborators/users, the regional Genome Centre(s) and other S&T ICs,
- iv. The management team's ability to coordinate activities
- v. The method for making research results accessible to users
- vi. The ability to manage a multi-disciplinary team

2. The mechanism for making critical decisions regarding the S&T Innovation Centre operations:

- i. The manner in which go/no-go decisions will be made
- ii. The process for making strategic decisions when a consensus cannot be reached
- iii. The discussion of key challenges and plans to address them

3. The use of the Science Advisory Board (SAB):

- i. The appropriateness of the SAB membership
- ii. The effective use of past SABs, where applicable

4. The effectiveness of the proposed communications, outreach and knowledge dissemination strategy:

- i. The effectiveness of promotional activities (e.g., advertising, website creation)

5. Highly Qualified Personnel (HQP)

- i. The quality and appropriateness of the proposed training program and training milieu
- ii. The demonstration that plans are in place to ensure that an adequate number of HQP are available to meet the needs of the S&T IC

E Financial Criteria

Budget/Control Processes

- i. The budgeted costs met the definition of Eligible Costs (section 6.1)
- ii. The reasonableness of the budgeted costs
- iii. The reasonableness of the rationale and justifications used for budgeted items
- iv. The likely effectiveness of financial and budgetary control processes or mechanisms (e.g., processes for authorizing purchases, payments and budget adjustments)
- v. The inclusion of a reasonable ramp-up period (where applicable) in relation to recruiting, purchasing and installing new equipment
- vi. Evidence that potential risks and their impact on the success of the S&T IC have been identified and that mitigation strategies are planned