



## The Azrieli Neurodevelopmental Research Program in partnership with Brain Canada

### Strengthening International Collaboration in Neurodevelopmental Research: Multi- Investigator Research Initiative (MIRI) and Platform Support (PSG) Grants Request for Applications (RFA)

#### About the Azrieli Foundation

The Azrieli Foundation’s mission is to support and operate a range of initiatives in various fields, including: scientific and medical research; the promotion of excellence in education and access to education; tolerance and Holocaust education; the advancement of excellence in architecture and the arts.

The Azrieli Foundation was established in 1989 to realize and extend the philanthropic goals of David J. Azrieli, C.M., C.Q., M. Arch. The one constant unifying theme in David Azrieli’s philanthropy has been his dedication to education.

#### About Brain Canada

Brain Canada is a national non-profit organization that enables and supports excellent, innovative, paradigm-changing brain research in Canada. For more than one decade, Brain Canada has made the case for the brain as a single, complex system with commonalities across the range of neurological disorders, mental illnesses and addictions, brain and spinal cord injuries. Looking at the brain as one system has underscored the need for increased collaboration across disciplines and institutions, and a smarter way to invest in brain research that is focused on outcomes that will benefit patients and families.

The Canada Brain Research Fund is a public-private partnership designed to encourage Canadians to increase their support of brain research, and maximize the impact and efficiency of those investments. Brain Canada has committed to raising \$100 million from private and non-governmental sources, which will be matched by government on a 1:1 basis. The Fund was announced in federal budget 2011, which proposed to “allocate up to \$100 million to establish the Canada Brain Research Fund, which will support the very best Canadian neuroscience, fostering collaborative research and accelerating the pace of discovery, in order to improve the health and quality of life of Canadians who suffer from brain disorders.”

1. The Challenge.....	2
2. The Opportunity.....	2
Information Webinar .....	3
3. MIRI Grants .....	3

International Collaboration .....	4
Additional information on Scope and Focus.....	4
Eligibility .....	5
Criteria for Assessment.....	5
Application Process.....	6
4. PSGs.....	10
Eligible costs.....	11
Eligibility.....	12
Criteria for Assessment (for both LOI and full application).....	12
Application process.....	14
5. Issues that apply to both MIRI and PSG Applications.....	16
For further Information.....	17

## 1. The Challenge

Developmental brain disorders are a leading cause of disability and impact not only the individuals affected, but also their family and the society in which they live. Autism Spectrum Disorders (ASD), Fragile X syndrome (FXS), fetal alcohol syndrome, cerebral palsy, schizophrenia, attention deficit disorder, dyslexia, epilepsy, intellectual disability, depression and neurological birth defects, among others, rob young people of the promise of a lifetime.

ASD now affects 1 in 42 boys and 1 in 189 girls. Between 2000 and 2010, prevalence increased from 1 in 166 to 1 in 68 children. More children will be diagnosed with autism this year than with AIDS, diabetes & cancer combined. There is no medical detection or cure for autism. Although ASD and related disorders are the fastest-growing serious developmental disability, they receive a tiny share of funding from comprehensive health research funding agencies: 0.6% of NIH funding, and 1% of CIHR funding.

FXS is the most common inherited form of mental impairment and affects 1 in 4,000 boys and 1 in 6,000 girls of all races and ethnic groups. While Fragile X individuals have a normal life expectancy, most will need support and care for their entire lives. Only about 9% of men with FXS achieve a high level of independence in adult life.

## 2. The Opportunity

The ultimate goal of the Azrieli Neurodevelopmental Research Program is to develop new diagnostics, treatment and prevention strategies for neurodevelopmental disorders, to reduce their economic and social burden on Canadians, and to improve the quality of life for those affected by neurodevelopmental disorders and their families. In Phase 1 of the program, the Partners jointly contributed \$8.5M, and with a further \$200,000 contributed by the National Bank, this funded four large Multi-Investigator Research Initiative (MIRI) projects with an emphasis on autism spectrum disorders and FXS<sup>1</sup>. The Azrieli Foundation will build on this significant research investment with a further \$3.25M commitment, which, matched by Brain Canada, will support an additional \$6.5M of research funding.

<sup>1</sup> See [http://braincanada.ca/files/Azrieli\\_Full\\_Application\\_List.pdf](http://braincanada.ca/files/Azrieli_Full_Application_List.pdf) for funded projects.

Canada has played a significant role in many discoveries about the neurodevelopmental disorders, and across the country there are leading laboratories and clinical research facilities able to contribute to the research effort. At the same time, there is a need to build capacity in this area of translational neuroscience, and to encourage collaboration with leading groups in other countries. Canada produces less than 4% of all research publications in this area, and our talented investigators and motivated trainees will benefit from stronger connections with the other 96% of the worldwide research effort.

Through **MIRI grants**, which will foster collaboration between Canadian and international researchers, the Partners will accelerate research progress in the area of neurodevelopmental disorders by helping Canadian researchers to work alongside their foremost colleagues world-wide, to access the best and most comprehensive research resources, the most up-to-date technologies, the most relevant study populations, and to ensure the widest global dissemination of the research outcomes.

High-impact research in neurodevelopmental disorders has always required skill, imagination, determination and insight, and nowadays it also requires access to shared equipment, facilities, services, databases, computing and informatics facilities, patient repositories, and biobanks, collectively referred to as technology “platforms”. Through **Platform Support Grants (PSGs)**, the Partners will support major national research platforms that provide enhanced technical and research capability to multiple investigators working in the field of neurodevelopmental disorders.

### ***Information Webinar***

All investigators interested in submitting an application to this competition are invited to attend an information and discussion webinar organized by the Partners, with the participation also of the USA NIDCH, which has recently funded three Centers for Collaborative Research in Fragile X. This will be held well in advance of the deadline for receipt of letters of intent (LOIs), and is intended to answer questions about the competition, provide a stimulus to innovative thinking as LOIs are being prepared, give an opportunity for potentially overlapping teams to cooperate, and to develop further international contacts and collaboration. Further information about the webinar will appear on this site, and you may contact [programs@braincanada.ca](mailto:programs@braincanada.ca) to receive this information

## **3. MIRI Grants**

The Azrieli Foundation and Brain Canada (the Partners), wish to support through MIRI grants excellent translational research in the area of neurodevelopmental disorders, with a special focus on ASD and FXS, through the efforts of teams involving Canadian and international scientists. The Partners will support the Canadian components of international teams proposing a collaborative research project in the area of neurodevelopmental disorders, with specific focus on systems and/or translational approaches.

Systems neuroscience follows the pathways of information flow within the central nervous system, attempts to define the kinds of processing occurring there, and uses this information to help explain normal and abnormal behavioral function. Translational research refers to studies conducted at the interface of fundamental and clinical research that transform scientific discoveries arising from laboratory, clinical, or population studies into clinical, behavioural or educational applications and interventions in order to reduce the incidence, severity and

morbidity of neurodevelopmental disorders. Studies that integrate perspectives from cell biology, genomics, and behavioral sciences into systems or translational approaches are also welcomed.

**Proposals relevant to ASD or FXS are especially encouraged.**

### ***International Collaboration***

Substantial international collaboration is a requirement for funding through this competition. The international component of proposals may take a variety of forms, for example:

- new collaborative research projects performed by multidisciplinary teams of Canadian and international researchers
- participation of Canadian teams in the new or ongoing research projects and programs of large international research networks, consortia, or large multi-site clinical trials.
- inclusion of Canadian investigators and their data in international research platforms, or enhanced access to research resources such as databases or special populations unavailable within Canada.

Applicants should describe the objectives, methodology and budget of the **entire international research project**. Since the Partner's funds can only be used to support research costs incurred by investigators with appointments at eligible Canadian institutions, applications must also explain, as appropriate for the type of international collaboration involved in the project:

- how the Canadian component strengthens the overall international research project;
- how Canada benefits from participation in the international project;
- how the Partners funds will be used to support the Canadian component of the project;
- how the international non-Canadian part of the project will be supported.

To be eligible for this competition, at least 30% of the estimated budget for the entire project must be expended on the international component.

### ***Additional information on Scope and Focus***

- Projects that are relevant to ASD and FXS are especially encouraged, but they can also address any neurodevelopmental disorder if the outcome of the study is likely to have an impact also on ASD and FXS.
- Projects should focus on systems and/or translational approaches. The overall goal of proposals must be on the translation of scientific discoveries into interventions to reduce the incidence, severity and morbidity of neurodevelopmental disorders. Early-phase clinical trials can be included as a project.
- Projects that focus entirely on the fundamental biology and pathology of neurodevelopmental disorders and have no translational component, and technology transfer or business development activities are ineligible.
- The Canadian component of the project must be feasible within the time and budget of a MIRI grant, in the range of \$1,500,000 in total. Applicants may propose both larger and smaller budgets as justified by the scope of the project, however funding is limited to three years in duration.

- One way of demonstrating feasibility is to provide preliminary data: however, for very novel proposals this may not be available, in which case applicants should explain carefully why the project is considered to be feasible.
- MIRI grants may be used to support any aspect of the operating costs of the research project conducted in Canada or by investigators employed by a Canadian institution, including: supplies and materials; provision of special services and user fees; travel of Canadian team members and trainees for collaboration and presentation of results; publication costs; salaries for technical personnel; stipends of trainees and funding of trainee exchanges with international collaborators; equipment that is currently unavailable but essential for the project. MIRI grants may not be used for salary payments to any team members who are eligible to apply for operating grants from the federal granting agencies, or who are resident outside Canada. MIRI grants do not provide institutional overhead.
- It is expected that data generated in these projects will be shared with and accessible to other researchers as soon as possible after it is generated, and in a form that respects the privacy of human subjects, in order to benefit the worldwide effort in neurodevelopmental research. This open sharing may be subject to temporary confidentiality requirements necessary for protection and exploitation of intellectual property. Publications arising from Partner funding must be openly accessible within six months of the date of publication. This requirement can be met by depositing the final accepted manuscript in a major archive (such as PubMed Central) so that it can be located by the leading search engines.
- Funded teams may be invited to attend annual meetings of all the research teams funded through the Azrieli Neurodevelopmental Research Program, which may be held in conjunction with the annual meetings of the NICHD Centers for Collaborative Research in Fragile X.

### ***Eligibility***

- This competition is open to teams of one or more Canadian investigators who are eligible to apply for research grants from the federal granting agencies (CIHR, NSERC, and SSHRC), and at least one international investigator (employed by and located at a non-Canadian research institution: Canadian citizens working outside Canada are eligible). One of the Canadian team members will be the team leader, and will be the individual responsible for communication with the Partners and for the administration of a grant, if awarded.
- Teams must be multidisciplinary, and their members may be based in one or several Canadian and international research institutions. The team must include the range of expertise and experience required to carry out the proposed research.
- To build capacity and generate novel perspectives, Brain Canada encourages the formation of teams that include researchers at all stages of their careers, as well as researchers within and outside the neurosciences who now wish to apply their expertise in other fields to problems of neurodevelopment.
- Participants from the government, industry, and the not-for-profit sectors are also welcomed in order to strengthen teams and facilitate the uptake of their research, but Partner funds will only support the portion of the work conducted by investigators employed by Canadian institutions eligible to receive funding from the federal granting agencies

## **Criteria for Assessment** (at both letter of intent and full application stages)

### ***Innovation and originality.***

- Proposals which are solidly-based in scientific fact and offer new approaches to the translation of scientific discovery into novel and effective interventions for ASD, FXS or other related developmental disorders.
- Since a track record of innovative and relevant research, appropriate for career stage, is a predictor of future performance, quality of the team and novelty of the proposal will both be critical components of the assessment.

### ***Collaboration.***

- Members from different disciplines contribute a specific value to the team, and the team as a whole achieves synergy of effort in order to accelerate research translation.
- The team is strengthened and the scope of the project is enhanced by the expertise of the international members and the access they provide to unique research resources, platforms, or study populations.
- Where applicable, the added value of Canadian participation in a large international project, and the benefits to Canada of this participation, are evident and significant.

### ***Feasibility.***

- The goals of the project are attainable within the time and funding available, and the approach is realistic, ethical, and technically feasible.
- Funding of the non-Canadian component of the project seems assured or highly probable.

### ***Impact.***

- The proposed research has the potential to lead to new diagnostic, treatment and prevention strategies for neurodevelopmental disorders, in order to reduce their global economic and social burden, and to improve the quality of life for those affected and their families.

## **Application Process**

Brain Canada will operate the competition on behalf of both Partners, and both Partners will be involved in the selection of reviewers and will participate in the meetings of the selection committee.

The Partners appreciate the major effort involved in preparing multidisciplinary team applications. To encourage imaginative proposals from the widest range of multidisciplinary teams, this application process begins with submission of a **simple letter of intent (LOI)**, that will be reviewed by an international expert panel, to identify those projects that are well-aligned with the subject area of this competition, that focus on innovative ideas with high potential impact, and where the international collaboration adds clear value over what could be accomplished by a Canadian-only team. Team leaders will receive brief comments from the individual reviews of LOI selection committee members, and in the case of LOIs rated highly enough to be discussed in detail, notes taken at the committee meeting, explaining the reasons for the outcome of the LOI. The project titles and members of the teams invited to submit a full application will be published on the Brain Canada website. The Partners may advise teams that have submitted similar or complementary LOIs to consider a joint proposal.

Some teams whose LOI is accepted for development into a full application may be invited to apply for a small grant to develop the international collaboration aspects of their full application. This will

require a letter from the team leader to Brain Canada, justifying the special need for such a grant: there will be a rapid response.

**Full MIRI Applications** from those invited to apply will be reviewed by an expert international Selection Committee. Applications will be reviewed by two specialist external reviewers whose assessments will be provided to the Selection Committee, and each application will also be reviewed by two Selection Committee members. The Selection Committee will provide a merit score for each application, and recommend to the Partners those application that have received a sufficiently high merit score to be worthy of approval, in descending order of merit.

### ***Timeline***

Call for Applications:	December 15, 2014
Information Webinar:	Mid-January 2015 (TBA)
<b>Deadline for Receipt of Letters of Intent</b>	<b>16.00 EST, February 9, 2015</b>
Invitations to submit full application issued	Week of March 30, 2015
<b>Deadline for Receipt of Applications</b>	<b>16.00 EST, May 19, 2015</b>
Notification of Award:	Week of July 6, 2015
Funding begins (earliest date):	October 1, 2015

### ***Application Procedure***

Team leaders should contact Brain Canada ([programs@braincanada.ca](mailto:programs@braincanada.ca)) with enquiries about the application process.

All LOIs must be submitted using Brain Canada's electronic grant management system ([https://braincanada.smartsimple.ca/s\\_Login.jsp](https://braincanada.smartsimple.ca/s_Login.jsp)). The Team Leader must sign on to the Brain Canada electronic grant application submission portal before **16.00 EST February 9, 2014** to complete all application fields.

### **LOI Application Components:**

#### **1. Project summary:**

- Project title
- Project start and end dates (note: choose dates within a 36 month window)
- Keywords (including freeform): up to 10 words
- A summary of the research project and its goals, emphasizing its innovative and original features. It is also important to explain how the project is feasible within the time and funding available from the requested MIRI grant (maximum 1000 words).

- A description of the anticipated impacts of the project outcomes, emphasizing how its innovative features will accelerate the translation of scientific discovery into novel and effective interventions particularly for ASD and FXS (maximum 500 words).
- The plans for disseminating the findings of the project and for sharing the project data, and for further development of discoveries or interventions and their application to practice, after the end of this grant (maximum 500 words).
- An explanation of the value of the international collaboration, and its essential contribution to the success of the project, and, particularly for large international projects, the demonstration that the Canadian component strengthens the overall international research project, and that Canada benefits from participation in the international project. This section should also explain how the team will operate and the project will be managed to ensure seamless collaboration between its components (maximum 500 words).

## **2. Project Team details:**

- If not registered already, please have your co-applicants register with the Brain Canada grant management system ([https://braincanada.smartsimple.ca/s\\_Login.jsp](https://braincanada.smartsimple.ca/s_Login.jsp)). Registered applicants will receive a Brain Canada PIN found under their “Personal Profile” and have access to co-write the application with the Team Leader.
- Add up to ten co-applicants using their Brain Canada PIN and last name.
- If there are more than ten co-applicants, select those most essential to the project.
- Team member publications: For each of the up to ten team members, cite up to five of their publications, of which at least three must have been published in 2010 or later. “Publications” means any type of document or medium, print or electronic, which best illustrates the member’s relevant research experience, expertise and achievement. Ideally, these describe paradigm-shifting ideas and findings, or examples of effective application and knowledge translation of research findings, and demonstrate the applicant’s ability to contribute to the proposed research project. Each item should be annotated with a brief reason for its selection. Include the DOI, URL or PMID of publications where applicable so that reviewers can access them.
- Explain the role of any trainees in the project and the unique learning opportunities they will experience.
- Explain the role that each applicant will play, and conclude with an overview of how the entire team will work together. For those ineligible to receive Brain Canada funding, explain how their contribution to the project will be funded (maximum 300 words).
- Please note that CVs are not required.

## **3. Budget:**

- For each grant year, provide the total amount of requested grant funding in the budget table (up to a maximum of three), separated into the Canadian and international (non-Canadian) sources. For the international component indicate the funding source(s) and



note if these funds are already awarded or applied for. At least 30% of the total budget for the entire project must be expended on the international component.

- For the Canadian component, for which funds are requested from the Partners, complete the budget form provided in the electronic grant application submission system, which requests the budget for each 12 month period, broken into major categories of expenditure (e.g. personnel, trainees, supplies, services, equipment, etc.)
- Provide a brief justification for the budget for the full period of funding, listing the major line items as described under “Use of Funds”, above, supplemented by a brief statement explaining how this expenditure will support the intended operation of the grant (Maximum 600 words)

### **3. Attachments:**

- Figures and references (maximum 1 page).
- Signed letters of collaboration from the international members of the team. In the case of Canadian participation in large international projects or platforms, a letter is required only from the leader of the project or platform, and it should explicitly welcome and approve participation by the Canadian team members.
- List of >10 team members, if applicable

### **4. Optional information:**

- Provide the names and contact information for up to three individuals who are not in conflict and would be competent to review the LOI and the subsequent full application, if invited.
- Provide the names and contact information for up to three individuals who should not be contacted for review

### **5. Signatures and Certification:**

The Team Leader must click the “I Agree” box to certify the following agreement: “I certify that all members of the team have agreed to their inclusion in this LOI, and allow me to represent them throughout the application process. I also certify that all team members permit Brain Canada to circulate this LOI and subsequent full application to third parties, under a confidentiality agreement, for the purpose of securing additional funding.” Please note that institutional and team signatures are **not** required for the LOI application.

It is the sole responsibility of the applicants to ensure their LOI submission is acceptable and received before the deadline. Those received in any other format, exceeding the page limits, incomplete, or late, will be rejected. Brain Canada will acknowledge receipt of LOIs by email within two working days. Brain Canada does not require at the LOI stage: signatures denoting institutional support; regulatory or ethical approval; copies of publications; evidence of preliminary results; methodological appendices; etc. Extraneous material will be deleted before the LOI is sent to the reviewers.

## **Full MIRI Applications**

Further details of the process will be provided to those invited to submit full applications. These will be up to 15 pages in length, including figures and references, and will be accompanied by brief CV summaries for team members. The criteria for assessment will be essentially the same as for the LOI, but may be modified or weighted on the basis of experience gained during review of the LOIs.

The Partners recognize that because of the rapid pace of discovery in the brain sciences, there may be changes in the project description or team membership between LOI and full application. Full applications that are judged by Brain Canada to differ substantially from the LOI will be referred to the Chairs of the LOI and full application Selection Committees. If the Chairs agree that the revisions have made the application more responsive to the assessment criteria it will be accepted. Revisions that are consistent with specific advice from Brain Canada will of course be acceptable.

#### 4. PSGs

PSGs support, for up to three years, major national research platforms that provide enhanced technical and research capability to multiple investigators working in the field of neurodevelopmental research. **Applications that support research on FXS and ASD are especially encouraged.** The value of an awarded PSG is unlikely to exceed \$1.4M in total over a period of three years.

Platforms could include tissue banks, clinical trials networks, imaging facilities, specialized animal facilities, specialized high-throughput genomics facilities, drug discovery platforms, data repositories, informatics systems and data-sharing systems. The linking and coordination of existing local or regional facilities into a national resource or network is especially encouraged under this scheme, as is the integration of Canadian resources into an international platform or consortium, as long as this improve its accessibility and utility to Canadian investigators. Central to PSGs is the concept of added value, that is, the support from the Partners must result in at least one of the following outcomes:

- Improved capabilities of existing platforms so that research is facilitated and accelerated.
- Integration and coordination of existing infrastructure, improving functionality and accessibility.
- Creation of new data pools and improved access to data, permitting novel research activities.
- A discernable impact on Canada’s capabilities in neurodevelopmental research.

PSGs are not intended to replace current sources of funding or merely sustain current levels of platform service and capability.

#### Eligible costs

Eligible	Ineligible
Purchase of service contracts, equipment repairs and other improvements to prolong the life of the platform and ensure it remains “state of the art”; and to increase its performance, capacity and the number of users supported. Purchase of equipment and hardware may not exceed one quarter of the total value of the grant.	Renovation or construction of space, purchase of standard office and laboratory furniture (cabinets, stools, computer desks, etc.)

Specialized supplies and services necessary for operation, to increase the platform's performance and number of users supported.	Basic laboratory services (heat, light, HVAC, municipal water supply, natural gas, security, cleaning, etc.) Research support services normally provided by an academic institution (e.g. libraries and other repositories of published works, basic animal care, technology transfer functions)
Salaries and benefits for technical and professional personnel responsible for developing, operating, and maintaining the platform.	Salaries of any individual eligible to apply for Brain Canada's MIRI grants, or any trainees
Development and dissemination of, and access to: databases; data repositories; tissue banks and patient registries. Development of informatics platforms and portals to access and deposit data; development of technical protocols; data standards; and standard operating procedures.	Costs involved in meeting regulatory or ethical requirements, occupational health and safety requirements, audits or requirements for licensing, etc. Insurance. Costs associated with protection of intellectual property.
Training programs for new users and technical staff; advertising the availability and capability of the platform to users; communications between users intended to improve utilization and operation of the platform; meetings of management committees for purposes of improving operations of the platform.	Costs for the operation of platforms that are for other than neuroscience research, and incurred by users who are ineligible to receive funding from the federal granting agencies (CIHR, NSERC and SSHRC).
Operating costs of a demonstration research project intended to demonstrate the utility and value of a newly-formed platform and secure sustaining funding from other sources, not to exceed one-half of the total value of the grant.	For platforms that integrate research with other activities, such as service delivery or education and advocacy, costs that are not directly attributable to research and associated knowledge translation activities.

Note that this list is not exhaustive, and Brain Canada may rule any other expenditure eligible or ineligible. Applicants are advised to contact Brain Canada before submitting an application requesting support for other types of expenditure.

### Eligibility

Applications are submitted by User Groups of investigators working in the area of neurodevelopment. A User Group is composed of investigators based in Canada whose research depends on use of the platform for which support is requested, or who are involved in the development of the platform.

- Members of the User Group must be eligible to receive funding from the federal granting agencies. The User Group should be based in one or several research institutions, thus demonstrating the national scope and utility of the platform.
- One of the User Group Members will be designated the Lead User, nominated by the User Group to be the individual responsible for submitting the application and for all communication with the Partners. The Lead User will normally be the individual responsible for overall management of the Platform, and if the Platform is a single physical entity it will normally be located at the Lead User's institution.

- Brain Canada's PSGs will have additional impact if they also increase opportunities for interaction and collaboration between researchers from different sectors and countries who intend to use the platform. Associate Members of the User Group are researchers from industry, government, other non-academic sectors, and international researchers, who intend to use the platform. While these other users cannot receive funding through the PSG grant, they should be listed in the application, and their interaction with the User Group described (see "Application Process", below).

### ***Criteria for Assessment*** (for both LOI and full application)

A highly-rated application will have the following attributes:

- **Excellent research in neurodevelopment with impact** is conducted using the platform. The platform enables excellent researchers from across Canada to develop new and improved approaches for prevention, diagnosis, and treatment of neurodevelopmental disorders. The research enabled by the platform could not be conducted in its absence, except at much greater cost and more slowly, and support for the platform will enhance Canada's capability in neurodevelopmental research. The platform enhancements will stimulate intersectoral (e.g. university/industry, university/health care service) or international collaboration. For new platforms where some funding may be used for a demonstration research project, the project is scientifically excellent and of high potential impact.
- **The platform is distinct and national in scope**, unique in its capabilities within Canada, or internationally, and supports researchers working in all major centres of neurodevelopmental research.
- **Effective management**. The governance and organizational structure is strong, effective, and widely understood by users. There is an equitable and user-friendly process for access, and users receive training and assistance, allowing them to use the platform and its services in the most efficient, safe, and economical fashion. There is regular budget planning for operations and maintenance, and for technical modifications to keep pace with scientific progress. For established platforms, users attest to the smooth operation and minimum down-time of the platform, and know how to communicate suggestions and concerns to the responsive operators. The operation of the platform is reviewed or audited regularly against defined performance benchmarks and identified deficiencies are corrected.
- **PSG support provides added value**. The PSG will facilitate user access to the platform and improve its operational capabilities, quality, or capacity.
- **Sustainable commitments to platform support**. The application is clear on the extent to which the existing platform, or the components that will be coordinated or integrated using the PSG, is/are supported from other sources. There are explicit commitments from the other financial supporters of the platform, and assurances that the PSG will not merely displace their financial commitments. There is a credible plan for sustaining the platform after the expiry of the Partner's funding.
- **Platform data is shared in a standardized format**. The platform adopts standard protocols and standardized data collection so that, subject to applicable laws and regulations, its data and specimens will be useful and accessible to other qualified researchers. Linkages to other

databases, repositories, biobanks, and registries are described. Applications for support of repositories, databases and registries which contain information about patients or human subjects must explain how their platform conforms to the relevant sections of the “Neurological Registry Best Practice Guidelines” published in Canadian Journal of Neurological Sciences, Vol. 40 No. 4 Supplement 2, July 2013 and also available at <http://canadianregistrynetwork.org/>.

### ***Application process***

Brain Canada will operate the competition on behalf of both Partners, and both Partners will be involved in the selection of reviewers and will participate in the meetings of the selection committee.

The application process begins with submission of a **letter of intent (LOI)**, which will be reviewed by an international expert panel. Team leaders will receive brief comments from the individual reviews of LOI selection committee members, and in the case of LOIs rated highly enough to be discussed in detail, notes taken at the committee meeting, explaining the reasons for the outcome of the LOI. The titles and Lead users of the platforms invited to submit a full application will be published on the Brain Canada website. The Partners may advise those that have submitted similar or complementary LOIs to consider a joint proposal.

**Full PSG Applications** from those invited to apply will be reviewed by an expert international Selection Committee. Applications will be reviewed by two specialist external reviewers whose assessments will be provided to the Selection Committee, and each application will also be reviewed by two Selection Committee members. The Selection Committee will provide a merit score for each application, and recommend to the Partners those application that have received a sufficiently high merit score to be worthy of approval, in descending order of merit.

### **Timeline**

Call for Applications	December 15, 2014
Information Webinar	Mid-January, 2015 (TBA)
<b>Deadline for Receipt of Letters of Intent</b>	<b>16:00 EST, January 30, 2015</b>
Invitation for Full Applications	Week of March 9 2015
<b>Deadline for Receipt of Applications</b>	<b>16:00 EST, April 24, 2015</b>
Notification of Award	Week of June 1, 2015
Funding begins (earliest date)	October 1, 2015

### **Application process**

Lead Users should contact Brain Canada ([programs@braincanada.ca](mailto:programs@braincanada.ca)) with enquiries about the application process.

All LOIs and applications must be submitted using Brain Canada's electronic grant management system ([https://braincanada.smartsimple.ca/s\\_Login.jsp](https://braincanada.smartsimple.ca/s_Login.jsp)). The Team Leader must sign on to the Brain Canada electronic grant application submission portal before **16.00 EST January 30, 2015** to complete all application fields.

## LOI Application Components:

### 1) Platform Summary:

- Title of proposal;
- Project start and end dates (note: choose dates within a 36 month window)
- List up to 10 key words describing the platform;
- Provide a summary description of the platform and how it will be used to advance research in the brain sciences, including an explanation of the special services, capabilities or expertise that the platform will offer to researchers in the locality, region, nationally, or internationally. Explain how the data or materials acquired, curated or analysed by the platform will be made available to other qualified researchers, with appropriate safeguards in the case of human data. (Maximum 500 words)

### 2) User Group details:

- List the names and affiliations of the members and associate members of the user group.
- Team member publications: For each of the up to ten team members, cite up to five of their publications, of which at least three must have been published in 2010 or later. "Publications" means any type of document or medium, print or electronic, which best illustrates the member's relevant research experience, expertise and achievement. Ideally, these describe paradigm-shifting ideas and findings, or examples of effective application and knowledge translation of research findings, and demonstrate the applicant's ability to contribute to the proposed research project. Each item should be annotated with a brief reason for its selection. Include the DOI, URL or PMID of publications where applicable so that reviewers can access them.
- CVs should not be attached to the LOI.

### 3) Impact:

Provide a **description** of the anticipated collective impact of the PSG on the research of the user group, including the potential for intersectoral and international collaboration, and on Canada's capabilities in neuroscience research. Emphasize the added value of the PSG in improving the platform's accessibility, performance, and reach into the neuroscience research community. (Maximum 500 words)

### 4) Budget:

- For each grant year, provide the total amount of requested grant funding in the budget table.
- Provide an outline budget for the full period of funding, listing the major line items as described under "Eligible Costs", above, supplemented by a brief statement explaining how this expenditure will support the intended operation of the platform. (Maximum 600 words)

**5) Attachments:**

- Figures and references (maximum 1 pages).
- Lists of >10 Users or Associate Users (if applicable)

**6) Optional information:**

- Provide names and contact information for up to three individuals not in conflict who would be competent to evaluate the application;
- Individuals to whom the application should **not** be sent for review. Reviewers will be selected by Brain Canada, taking these suggestions into account.

**7) Certification and Signatures:**

The Lead User must click “I Agree” box to certify the following agreement: “I certify that all members of the user group have agreed to their inclusion in this application, and allow me to represent them throughout the application process. I also certify that all members of the user group permit Brain Canada to circulate this application to third parties, under a confidentiality agreement, for the purpose of securing matched funding.”

It is the sole responsibility of the applicants to ensure their LOI submission is acceptable and received before the deadline. Those received in any other format, exceeding the page limits, incomplete, or late, will be rejected. Brain Canada will acknowledge receipt of LOIs by email within two working days. At the LOI stage, Brain Canada does not require signatures denoting institutional support; regulatory or ethical approval; copies of publications; detailed evidence of preliminary results; methodological appendices; full CVs, etc. Extraneous material will be deleted before the LOI is sent to the reviewers.

**Full Application**

The details for submitting a full application will be provided to the Lead User of the successful LOIs following LOI review process.

**5. Issues that apply to both MIRI and PSG Applications****Allocation of funding**

Only applications judged to exceed the standard of excellence set by the Selection Committee will be funded. The Partners will determine, following the review of applications, the number of PSG and MIRI applications that will be funded. Available funding will be allocated to applications in descending order of merit, until the funds are exhausted or all recommended applications are funded. If application quality does not meet their high standards, the Partners may fund fewer applications than planned, or none, and re-launch the competition.

Successful applicants will be notified that their proposals have been conditionally approved, and informed of any conditions that must be met before funding can be released.

**Feedback**

All applicants will receive written comments from the expert reviewers and the Selection Committee. The Partners will not entertain appeals against the assessment of the Selection Committee. The Selection Committee membership will be posted on the Brain Canada website after the competition.

**Due diligence.**

In order to reduce the burden on applicants, Brain Canada requires certain documentation (e.g. details of concurrent research funding, regulatory and ethics approval) only from those applicants whose applications have been conditionally approved, though time-consuming items such as ethics approval should be sought earlier by all applicants. The required documents must be received and other conditions resolved within a reasonable period specified by Brain Canada, before funds can be released to the institution of the team/user group leader, who is responsible for distributing funds to the other Canadian members, through their institutions. While MIRI teams are advised to have firm commitments for the funding of the non-Canadian components of their projects at the time of full application (see Criteria for Assessment), the Partners will allow teams up to six months from the date of conditional approval to secure funding for the non-Canadian component.

**Sharing of Applications between the Partners**

Under confidentiality agreements, Brain Canada will share the full contents of relevant LOIs and applications with representatives of the Foundation, and may also share contents with other potential funding partners, in order to fund as many high-quality applications as possible. Applicants are advised to consult the Brain Canada website for details of how the Canada Brain Research Fund and Brain Canada partnerships operate.

**Confidentiality and Ownership**

Brain Canada on behalf of the Partners owns all materials submitted by applicants for both LOI and full application stages. It will take reasonable steps to keep these materials confidential, and divulge them only to reviewers, committee observers, and representatives of the Azrieli Foundation, and other potential funders who have signed confidentiality agreements. Funded applications will be retained for comparison of intended and actual outcomes, as part of the final evaluation of the Initiative and the Canada Brain Research Fund.

The Partners do not claim ownership of intellectual property arising from research that they fund but encourage teams to disclose and protect intellectual property according to the policies of their institutions in order that it may be fully and rapidly exploited.

**Reporting, Communications, and Evaluation**

As a condition of continued annual funding, the Partners require a brief yearly progress report from the team/user group leader, outlining achievements and impacts realised, as well as difficulties encountered and steps taken to overcome them. Progress reports will be reviewed by members of the Selection Committees, with continued funding based upon a satisfactory review. If the Partners consider that a progress report is questionable, after discussion with the leader, they may provide an extension to the period over which the funds are available, or cancel further funding. Details of the reporting process will be provided to leaders. Annual financial reports will



also be required from the institutions employing the researchers, which hold the Partners funds in trust.

Team/User group members will contact Brain Canada, for the Partners, in advance of the publication, release or public presentation of research results obtained with Partner funding, so that a joint press release or other publicity can be prepared. Embargoes will be strictly respected. Acknowledgment of The Azrieli Neurodevelopmental Research Program, in partnership with Brain Canada, will accompany all publication, release or presentation of such research results.

Ten percent of the final year's funding will be withheld and released on receipt of a satisfactory end-of-project report that describes the current and estimated future outputs and impacts of the resulting from Partner funding.

### **For further Information**

About the Azrieli Foundation: <http://www.azrielifoundation.org/>

About Brain Canada and the Canada Brain Research Fund:  
<http://braincanada.ca/>

About this funding opportunity please contact [programs@braincanada.ca](mailto:programs@braincanada.ca)